

AUGUST '61

# MODERN TEXTILES

MAGAZINE

*Specializing in Man-Made Fibers and Blends since 1925*

FIBERS

FABRICS

FINISHES



Vice presidents  
WOOD (left)  
and ROBERTS  
of Duplan—  
a big bet on  
textured yarns—  
story page 21

## CONTROL CHART TO CHECK WARPER BREAKS

Success story—synthetic fiber marine ropes

Three ways to shorten wool bleaching

Sample cards—silent salesmen

PLUS 11 ADDITIONAL ARTICLES AND SPECIAL REPORTS

A SKILLED HAND IN CHEMISTRY...AT WORK FOR YOU

*An Invitation  
to dyers, printers and finishers  
to investigate products now available from  
Nopco Chemical Company  
and its subsidiary Jacques Wolf & Co.*

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It is extremely important — in fact, it is one of the *most important* features of a cone. The correct nose insures free delivery of the yarn and this means a savings to you. Over the years Sonoco has devoted continuous research to perfect this one feature because it is essential to have the right “nose” *matched* with the yarn and processing conditions.

For example, the Regular or Crimped Round Nose is satisfactory in most instances, however the Straight Round Nose was developed for yarn with high moisture content and where relative humidities are excessive. There are varying degrees of crimping and rolling which permit a variety of

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# MODERN TEXTILES

August, 1961

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Association.....41 E. 42nd St., New York  
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Inc.....469 Seventh Ave., New York

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They Prove Their Quality HERE



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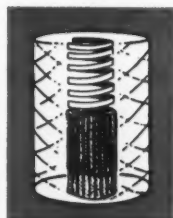
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Color is the greatest sales builder in textiles today. But it must be the RIGHT color and the RIGHT shade. Give your salesmen the right colors and the right shades in your merchandise, tell them that the colors ARE right and why, and they will not disappoint you.

In Franklin Colorbred Yarns we offer you a selection of the right colors and the right shades. The colors and shades are right because they have been specified by fashion experts, alert to color trends throughout the fashion world. Use Franklin Colorbred Yarns and you won't be "following the leader"; you will be OUT IN FRONT!

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LUBRICATION  
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IMPROVE ITS OPERATION AND  
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## TEXTILE

### NEWS BRIEFS

#### Baldwin Processing Sold

Madison Throwing Co., Inc., has acquired the assets of Baldwin Processing Co. at Milledgeville, Ga. Joseph H. Hamilton, president and general manager of Baldwin, is moving to Madison as vice president in charge of sales. The Milledgeville manufacturing facilities will continue to operate as in the past.

#### Fibers Used in Nonwovens

About 102 million pounds of fiber annually are now being used for nonwoven fabrics, or almost 2% of the textile market in finished goods, it was estimated by Howard E. Shearer of the textile research department, American Viscose Corp. He said his figures cover natural and manmade bonded fiber, excluding chemical adhesives. The nonwoven fabric industry, he said, has reappraised its position, "its uncharted advance being replaced by a more careful plotting of the course to follow."

#### New Elastic Fabric Plant

Arfa Mills, Inc., has announced the virtual completion of its new plant at North Cauldwell, N. J., which will specialize in the manufacture of elastic fabrics. The new plant, which will operate as the Arfa Mfg. Inc., will make elastic fabrics for the corset, brassiere, lingerie and bathing suit trades, and specialize in the manufacture of spandex power net.

#### New Dacron Fiber

Du Pont is now producing limited quantities of a new fiber, Dacron 88 polyester fiberfill. It is being shipped to the trade for use in comforters. The new product is said to have 20% more bulk in comforters than regular Dacron polyester fiberfill. The high level of bulk results from a special crimp structure. Plans also call for introduction of Dacron 88 for use in pillows and sleeping bags. The new product is priced at \$1.34 a pound.

#### Auto Seat-Belt Research

Allied Chemical Corp. has commissioned Fabric Research Laboratories, Inc., to carry out an independent program designed to examine safety standards for the belt fabrics and hardware used in automobile seat belts. Results of the research project will be available to seat-belt and auto manufacturers, and to agencies concerned with standards, including the Society of Automotive Engineers and the General Services Administration.

#### Nylon 6 Tire Cord

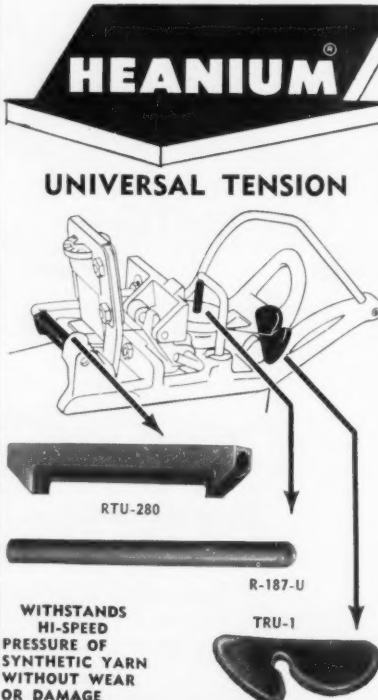
Von Kohorn International Corp. reports that new machinery it has designed for nylon 6 spinning permit the production of improved stabilized nylon 6 tire cord and heavy yarns for industrial fabrics, ropings and cordage. Von Kohorn previously has long experience in the viscose rayon field and helped develop Super II and Super III type rayon tire cord. The firm has investments in several countries and has operated and equipped plants in the manmade yarn, fiber and film field for over 50 years.

#### Chemstrand Data Center

The Chemstrand Corp. will construct a data processing center in Greenville, S. C. The Greenville site was chosen because of its proximity to the company's other operations at Greenwood, S. C.; Decatur, Ala.; Pensacola, Fla., and at Durham, N. C. The center will be completed early in 1962.

#### Textile School Gift

North Carolina State College School of Textiles has installed a new Hunter fiber meter automatic weighing conversion system in the school's pilot processing laboratory. The system was a gift to the school by James Hunter, of James Hunter Machine Co.



**HEANIUM**

**UNIVERSAL TENSION**

RTU-280

R-187-U

TRU-1

WITHSTANDS  
HI-SPEED  
PRESSURE OF  
SYNTHETIC YARN  
WITHOUT WEAR  
OR DAMAGE

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NEW HAVEN 3, CONNECTICUT

Southern Representatives: R. L. Carroll, P. O. Box 1676, Greenville, S. C.



## SAGNER SETS NEW STANDARDS IN SUITS

*Spinco*



*Vycron*

*Vitel*

The Northcool suit was tailored by Sagner, of course.

The Vycott fabric (65% polyester - 35% combed cotton) was woven by Spinco Fabrics, Inc., and certified by U. S. Testing Co.

The Vycron polyester fiber was spun by Beaunit.

The Vitel polyester resin was produced by Goodyear.

And so a new standard in wash-and-wear suits is set. For these fine names have combined their skills to produce a garment that's unmatched in its smart color, luxurious texture and all-around performance.

VITEL makes this performance possible by imparting these properties to fibers: Exceptional yarn strength—good fiber-to-fiber cohesion—outstanding mill processability—unusual dyeability and colorfastness—excellent resistance to pilling and abrasion—ideal wash-and-wear properties. Further information on VITEL is yours by writing Goodyear, Chemical Division, Dept. F-9476, Akron 16, Ohio.



Lots of good things come from

# GOOD YEAR

CHEMICAL DIVISION

Northcool, Vycott—T. M.'s Sagner, Inc., Frederick, Md.  
Vycron—T. M. Beaunit Mills, Inc., Fibers Division, New York, N. Y.  
Vitel—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

# What is ENKA RAYON fashion yarn?

It's shimmering CREPE...supple, full "bodied," glowing with rich beauty, luxuriating with softness!

It's an airy, light SHEER "45"...a fabric with substance, versatility, good manners and cool as only a modern rayon can be!

It's a kaleidoscope of COLORS...the pale tints of springtime, the inky blacks of summer, the vibrant tones of fall!

It's a PRINT...a jungle of wild flowers, a sophisticated abstract, a geometric, an expression of a textile artist's brush!

It's a TEXTURE...pebbly, tweedy, silklike, damasky, smooth as glass!


It's a SILHOUETTE...the flare, the sheath, the blouson, the middy, the pleat, the drape!

It's PROMOTION...national advertising in top fashion magazines, modern merchandising on a coast to coast basis, publicity in the nation's fashion press!

Modern ENKA RAYON yarn adds more than mere filling to a fabric. It's the look, the touch, the shape of fashion TODAY.

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A high solids polymeric urea resin for adding permanent body to resin finishes.

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A stable polyvinyl acetate emulsion for bodying and stiffening all fibers.

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The tested resin softener with high scorch resistance, no yellowing.

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A composition for use with resin finishes to give durable water repellency and soft, full hand.

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A low free-formaldehyde modified urea resin for stabilizing finishes on cotton knits.

The Hart line of resins and auxiliaries for resin finishing is a complete line and a completely tested line—proved on millions of yards of goods through thousands of hours of profitable, trouble-free processing in the largest resin

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*SERVING THE TEXTILE INDUSTRY FOR OVER 57 YEARS*



THE LOVELIEST YARN EVER PRODUCED BY MAN, BEAST, OR INSECT!

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**TUSSON**<sup>®</sup>  
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ARISTOCRAT OF RAYON YARN

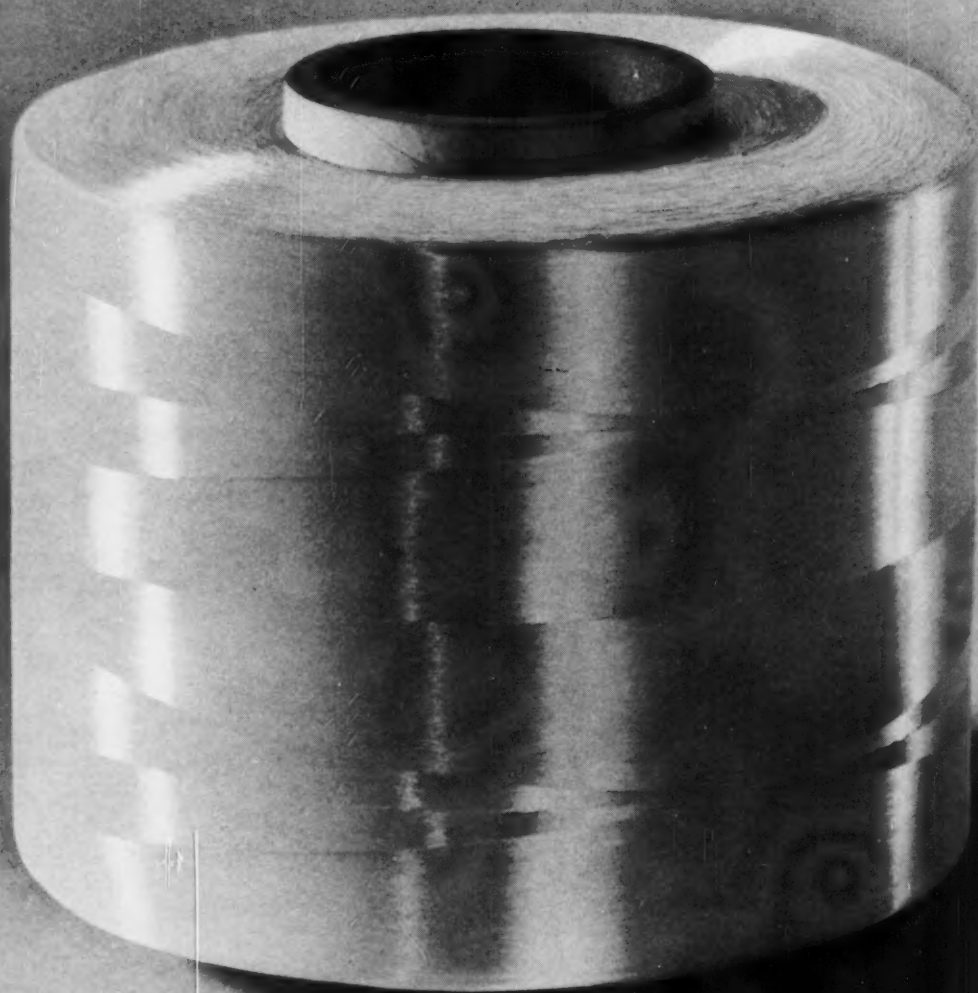
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"TUSSON" IS THE REGISTERED TRADE MARK FOR AMERICAN BEMBERG CUPRANONIUM RAYON YARN

AUGUST, 1961



This new precision-wound package will be the





Quality fabrics are in great measure dependent upon the producer's yarn package. For this reason, some leading fiber producers are now installing the new Leesona *precision-wound* package system for filament yarns. Packages from

hallmark of leading fiber producers

Leesona's new electronically controlled No. 959 Take-Up Machine contribute immeasurably to superior quality. The uniformity of winding and the package construction eliminate pirtaper barré in fabrics.

Also, the Leesona system of winding makes the largest knot-free packages. These large *precision-wound* packages offer many production advantages including lower handling costs.

Ask your supplier for man-made filament yarns on this new *precision-wound* package, or write Leesona Corporation, P. O. Box 6088, Providence 4, R. I., for complete information.

Leesona Leads  
to Better Fabrics



# SPARKING AN EXCITING NEW FABRIC CONCEPT

# AVRIL<sup>®</sup>

(FIBER 40) RAYON

You'll be hearing and seeing a lot of Avril<sup>®</sup> rayon in the coming months. Already hailed as the greatest achievement in cellulosic chemistry, new Avril has a unique combination of strength and inherent stability never before achieved in rayon fibers. Avril is actually the strongest commercial rayon staple ever produced for the textile industry.

**EXCEPTIONAL DIMENSIONAL STABILITY**—New Avril rayon is exceptionally strong, and shrink-resistant. This makes Avril an ideal fiber to team up with cotton, polyesters, triacetate, and acrylics. Avril rayon actually has all the properties which make it ideal for processing on cotton, modified cotton and any other systems.

**MUCH GREATER TENSILE STRENGTH**—The wet and dry tensile strength of Avril rayon is far greater than regular rayon. This makes Avril perfect

for use alone or with cotton, or synthetic fibers.

**BETTER PERFORMANCE**—The greater strength and stability of Avril rayon fibers enhance wash and wear performance. Avril rayon maintains its strength extremely well after resin treatment. The absorbency of Avril rayon lends real comfort to apparel fabrics.

**IMPROVES APPEARANCE**—Avril rayon takes to colors beautifully. Adds greater brilliance and color clarity to cotton and synthetic blends. Avril also improves hand and luster of fabrics.

For complete information on (Fiber 40) Avril developments that are destined to revolutionize a wide range of textile products, contact Merchandising Department, American Viscose Corporation, 350 Fifth Avenue, New York 1, N.Y.

**AVISCO  RAYON**

AVRIL<sup>®</sup> RAYON, THE HIGH-PERFORMANCE FIBER, COMFORTABLE, CAREFREE.



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Every day, more and more synthetics require heat setting. Turn to Turbo, and let automation solve your problems. On Turbo Automatic Fiber Setters, push-button controls guide the entire setting operation.

Alternating cycles of steam and vacuum eliminate air and moisture pockets to provide fast, thorough penetration even at the center of material being processed. Cycling can be provided to allow any combination of pressure and vacuum.

Turbo Fiber Setters, with capacities from 60 to 1000 lbs., are available with a variety of carriers: Tray-type for sweaters; cans for tow or sliver; baskets for carpet yarns, and skeins; bobbin carriers for cones or spools.

See them in operation at Lansdale . . . push the buttons yourself! Call ULysses 5-5131, or write today for an appointment.

# TURBO

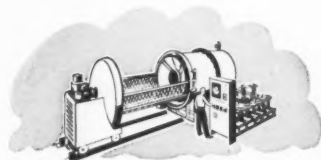


TURBO MACHINE COMPANY, LANSDALE, PA.

AUGUST, 1961

## NEW

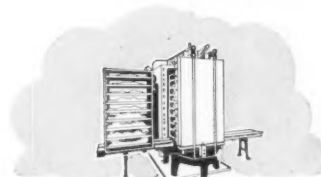
Now it is possible to set fibers at negative pressures. Accurate fiber setting at temperatures below atmospheric can be achieved as a result of new processing techniques developed by Turbo research engineers. Newest units in field operating successfully.



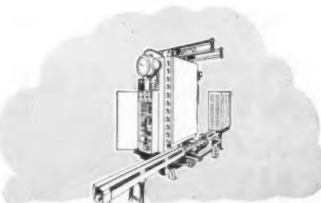
Turbo's FS-1000 for carpet yarns processes up to 2000 lbs. per hour. Keeps relative humidity up, temperature under the boil. Better shrinkage control than with earlier water-setting techniques.



The Turbo FS-300, with basket carriers, sets yarns at 300 lbs. per cycle. Eliminates dry heat problem by keeping humidity up, temperature down.



The Turbo FS-96 processes 9 dozen sweaters per hour, or 200 lbs. of fiber per hour based on 20 lbs. per can.



The Turbo FS-60 sets up to 120 lbs. of synthetic fibers per hour.



# Struck oil

... No, let's not get carried away. You won't necessarily hit the jackpot simply because you use Du Pont fibers. But we do claim that these are the best-known, most trusted and preferred man-made fibers in the world, bar none. And Du Pont keeps building this preference through a strong advertising program, including network TV, magazines, newspapers, radio... Fibers are just one factor in your operation. An important factor, though. You've a far better chance for far better business when you feature Du Pont fibers on your labels, in your advertising and in your selling plans.

## GET A SELLING EDGE WITH DU PONT NYLON "ORLON"\* "DACRON"\*\*\*

ACRYLIC FIBER

POLYESTER FIBER



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

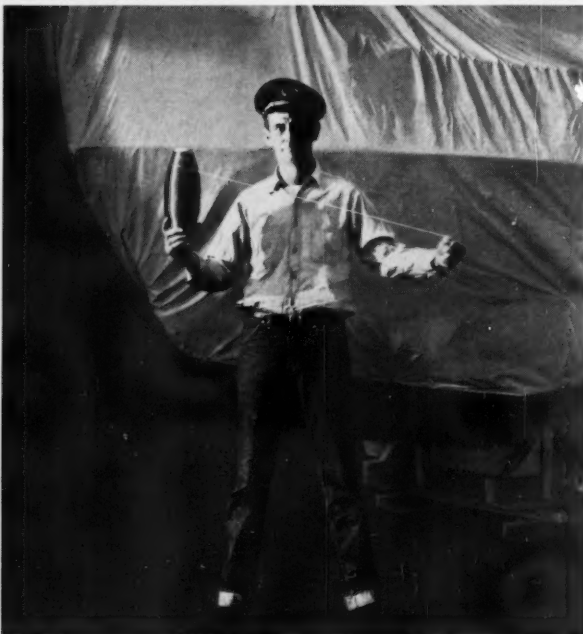
\*Du Pont's registered trademark for its acrylic fiber. \*\*Du Pont's registered trademark for its polyester fiber.







AUGUST, 1961



## They're using a tougher yarn...why aren't you?

It takes a tough yarn to stand up in a racing tire... missile sling... marine cordage... all-weather tarpaulin. And tough is the word for high-tenacity Golden Caprolan® nylon by Allied Chemical. But Golden Caprolan is more than just tough. It is a remarkably versatile yarn that offers a unique combination of superior performance qualities: unsurpassed resistance to abrasion, excellent rubber adhesion, greater resistance to flex-fatigue, to name a few. Golden Caprolan established a new

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Fiber Marketing Dept., 261 Madison Ave., New York 16, N. Y.

GOLDEN  
**caprolan**  
NYLON FOR THE 60's

MODERN TEXTILES MAGAZINE

# MODERN TEXTILES

## Magazine

### Publisher's Viewpoint

## Standards for Laminates, Woven Stretch Cloths

**T**HE APPEARANCE OF new materials in textiles as in other industries can be the occasion for vexing problems as well as the opportunity for business expansion and increased profits. In the past year or so two new developments in textiles have attracted great interest and have been the cause of much excitement over their respective growth potentials. These new developments are fabric-foam laminates and woven stretch fabrics.

In the pages of this magazine we have reported in copious detail the technical and marketing aspects of both laminates and woven stretch cloths. As a next step in the forward progress of both types of fabric, the need has arisen for quality standards. Such standards are needed to preserve both of these promising innovations from the harmful effects of excessive price competition, and also from misunderstanding as to how and in what end uses these fabrics can most advantageously be employed.

In the case of fabric-foam laminates, the speed with which this new development swept the industry, the haste with which so many inexperienced firms rushed into the laminating of cloth to foam, and the frantic eagerness of some persons to profit on the success of laminates has given rise to many complaints about quality.

Those thoughtful and fair-minded persons who saw in laminates a broad and permanent addition to established fabrics could not help deplore the activities of less scrupulous business men who were willing to overlook the maintenance of quality standards in their haste to "clean up" on this new development.

By now the situation has, to a certain extent rightened itself, though not without pain and trouble to many who were the unfortunate purchasers of below-grade laminates. Many of the fly-by-night operators in the field have folded their tents and moved on. Not, however, without having inflicted inestimable damage on a new product and a new technique from which it may take some time to recover.

On the credit side of the picture, we are happy

to report that an effort is under way to set up standards for fabric-foam laminates. Standards of an objective nature, sponsored by the American Standards Association, will do much to help keep at a high level the manufacture of fabric-foam laminates. Buyers will have a standard to guide them in their purchases of foam laminates. Laminators will be able to guide themselves in their work and avoid production of inferior quality goods. It is to be hoped that the movement to establish standards for laminates will go forward with as much speed as possible.

### Standards for Woven Stretch

Meanwhile in the new field of woven stretch fabrics the absence of reliable standards is reported to be causing much confusion among garment manufacturers and others, including buyers for the big retail chains who are anxious to offer these new fabrics to consumers. The big question puzzling these important people in the chain of fabric marketing is how much stretch? Mill salesmen and converters are showing them woven stretch samples with varying degrees of stretch. Some have 20% stretch, some 10% and some less. If stretch is a good thing, does this mean that the more stretch you have in a garment the better the garment? Obviously the answer is "not necessarily."

And here again there is an urgent need for standards that will guide the industry in knowing how much stretch is good for one end use and how much for another. For example, a certain amount of stretch may be ideal in a man's golf jacket. But in a girl's skirt, the same amount of stretch may not be enough or may be too much.

And so in woven stretch fabrics as in laminates, the sooner objective, reliable, carefully worked out standards of performance are set up the better it will be for all elements in textiles who are hopeful of profiting in the manufacture and sale of these important new kinds of fabrics.

*A. J. Macellough*

# TEXTILE NEWS



## World Wide

**UK NYLON BATTLE LOOMS** as the two giants, Imperial Chemical Industries and Courtaulds, acquire caprolactam patents from Continent. ICI will use Swiss patents from Emser Werke and Stroke Inventa. Courtaulds has Snia Viscosa's Italian patents. Both will make nylon 6. ICI's initial capacity for caprolactam is 15,000 tons yearly, Courtaulds, 10,000 tons. (The two firms own British Nylon Spinners which makes nylon 66.)

**RISE IN JAPAN'S NYLON** output is forecast as a result of Kureha Spinning's agreement with Germany's Zimmer AG. It will help the Japanese firm to build a 5,900-ton yearly caprolactam plant to turn out some 5,500 tons of nylon fibers each year.

**US-TYPE MANMADE YARN** production is being planned in the UK by Dunlop Rubber. It is the polyurethane yarn, Vyrene, an elastic silicone-lubricated monofilament. It retains strength even at very fine counts. Dunlop and US Rubber own Vyrene patent rights.

**NEW GERMAN MANMADE FIBER**, to be called Travis, is due to be produced starting in mid-1962. The new company is Bobina Faserwerke of Bobingen, near Augsburg. Farbwerke Hoechst, Frankfurt, will supply the raw materials and market the fiber. The Hoechst firm, with Celanese, set up Bobina Faserwerke. Celanese got the rights for this Dinitril type fiber from B. F. Goodrich. It is used in knitted and woven fabrics and is easily washed.

**RAYON FROM BAMBOO** is being developed by Kokusaku Pulp Industry, Japan. The company had been asked to look into such a process by the Government of India.

**INDIA'S RAYON CAPACITY** is increasing. The 1961 installed capacity is 52 million pounds, with Government authorization to rise to 83.6 million. By 1962-63, it should hit 140 million pounds, with a planned 215 million by 1966.

**LATIN AMERICAN RAYON** output should rise if the Japanese company, Alaska Pulp, succeeds in stimulating a market for its rayon pulp.

The company's rayon fiber technicians are completing a swing through Latin America with the view of passing out know-how and, ultimately, selling pulp.

**WORLD FIBER GROUP** is urging a greater degree of cooperation between manmade fiber and fabric producers and the development of new textile machinery. J. C. Meijberg, technical chairman of the International Rayon and Synthetic Fibers Committee, stressed that the fiber engineer is now closer to the piece goods manufacturer than ever before.

**SWEDES CLAIM NO-IRON** wool finish. The Swedish Institute for Textile Research, Gothenburg, says the finish uses various reagents such as water solutions of sodium sulphite or thioglycolate. Certain fabrics were said to retain their creases and not to shrink after several washings. Hydrate of potassium plus resin treatments are being worked out for crease-resistant cottons.

**BRAZIL ASKS JAPANESE** to help the Government to establish a cotton spinning engineering center somewhere in the northeastern part of the country. The Japanese Government is sending technicians.

**ARGENTINA'S BRILON** is starting production of manmade stretch yarns at a monthly rate of 66,000 pounds. Output should reach 110,000 pounds in mid-summer and 220,000 by the end of 1962. Brilon uses Deering Milliken patents. The firm has Argentine capital, French and German machinery and US technical assistance.

**WORLD WOOL BODY** is set to establish an experimental wool finishing plant in the US. Goal would be to find new finishing techniques and speed their application to the natural fiber. The International Wool Secretariat said it would start out by concentrating on "easy care" chemical treatments, like Sironizing.

**WORSTED SPINNING MILL** devoted exclusively to processing manmade fibers is being operated, on a pilot basis, by the North Irish firm of Jeremiah Ambler at Ballyclare, County Antrim. At the outset Acrilan, Courtelle and Orlon acrylics and Terylene polyester are being used.



# Duplan bets on textured yarn

*This respected old firm has dropped weaving to concentrate on filament yarn processing with emphasis on texturing. Its management aims to remain ahead in this expanding field*

## By the Editors

**R**EBORN, its vitality renewed and its modern plants stripped for action, the Duplan Corp., a fine old name in textiles, has taken for its special domain the exciting new world of textured yarns. These continuous filament manmade yarns, specially treated to have properties of bulk and stretchability offer Duplan's future, its management believes, a perspective of growth whose ultimate dimensions remain concealed in textiles' future.

Although textured yarn growth possibilities are not yet fully charted, they are enormous, Duplan is convinced. And like Cortez on the shores of Mexico, the company's young vigorous management has burned its boats behind it and is prepared to fight its way forward in the still vast unknown possibilities presented by the new technology of improving the properties of filament yarns by texturing.

"We believe in the continued expansion of textured yarns in weaving and knitting fields," Duplan's two head men, vice presidents W. A. Wood, Jr., and H. L. Roberts, told MODERN TEXTILES recently. And they added that it was Duplan's policy "to maintain a progressive program of advancement in technology, research, marketing and the maintenance of our leadership in productive capacity."

This is indeed a sweeping commitment. And it is one whose achievement the skeptical might question if such achievement still lay in the future. The truth of the matter is, however, that Duplan already is exactly in the position where the statement by Wood and Roberts puts it: the company stands today as a leader in the field of textured yarns. Duplan right now possesses the technological knowledge, the experience, and the equipment to keep it in the forefront of the textured yarn era—one which many thoughtful textile men believe will have in the future a potential as broad and an impact as overwhelming as the power loom and ring spinning had in the past.

The whole field of textured yarns is complex and grows more complicated with every passing month: however, it may be summed up as an area which divides itself into two exciting major parts—and each of these has almost equally broad possibilities for expansion. These two divisions are bulk and stretch yarns. Currently, the hottest development in texturing continuous filament yarns to give them bulk is nylon yarns for carpets. In texturing to impart stretch to nylon yarns, the fastest-moving development today is the utilization of such yarns in woven fabrics as an expansion of their already well-established success in knitted fabrics.

Duplan's dominant position in the field of textured yarns stems in part from the company's long history as a throwster. In part also it comes from a decision Duplan management made a few years ago resolutely to divest itself from its unprofitable operations as a weaver and concentrate narrowly and intensely on the processing of filament yarns as a throwster. To date, this decision—not an easy one to have made—has proven itself unmistakably the right one.

For the past three years Duplan has shown a profit after a number of years of losses brought about mainly by the company's now abandoned activity as a weaver of silks and synthetic filament goods. Now, with three spankingly modern, superbly equipped plants all concentrating on various aspects of yarn throwing, Duplan appears to be in a strong position to improve its volume and earnings.

The metamorphosis of Duplan from an old-line weaving and throwing outfit into its present position as the biggest company devoted entirely to throwing, and even more significantly to textured yarns, came about in a series of steps taken in an effort to survive in a textile climate growing increasingly rigorous. Duplan's origins go back to 1898, when Jean Leopold Duplan, a silk manufacturer in Lyons, conceived the idea of establishing a silk weaving enterprise in the United States. Joined by a number of American businessmen, together they raised the capital to set up the first Duplan mill in Bethlehem, Pennsylvania.

Over the years, the company shaped a course of rapid growth to cope successfully with the changing tides of American textiles. By 1928, when Duplan

became a publicly held corporation whose stock was listed on the New York Exchange, the company was firmly established as one of the prestigious leaders among weavers of silks and synthetics with many outstanding firsts in high quality apparel fabrics to its credit. Growth and profitable operation continued right through the difficult years of the thirties and into the era of World War II during which Duplan, like all American textile manufacturers, ran around the clock on defense orders and in the production of cloth for the civilian market.

### Difficult Years

The early fifties, years of difficulty and change for nearly everyone in American textiles, brought more than a usually heavy share of problems to Duplan. In 1956, Duplan management, took stock of its liabilities and assets, and deliberated what course would be best for the future. Ruminating on these matters, its directors took note that its extensive weaving operations were being carried on with steadily mounting losses. On the other hand, they were impressed with the fact that Duplan's equally important operations as a throwster, largely at that time for the hosiery trade, was profitable.

From this stock-taking came the decision to divest Duplan of its weaving function and concentrate on throwing. Weaving plants in Hazelton, Pennsylvania, Lincolnton and Burnsville, North Carolina, and Grottoes, Virginia, were closed down and sold. Retained for its new future as a throwster and processor of textured yarns were Duplan's new throwing plant in Winston-Salem, and two similarly modern plants in Kingston, Pennsylvania, and Cleveland, Tennessee. From that day on, Duplan has concentrated on filament yarn processing.

As its approach to textile manufacturing changed, the company also branched out in other directions. In 1959, Duplan purchased for \$5,400,000 the Automatic Burner Corp. of Chicago, maker of oil burners, and the K-D Lamp Co. of Cincinnati, Ohio, a manufacturer of lamps, signal lights and accessories for trucks and other vehicles. Meanwhile, in a reorganization of its management setup, George Friedlander, who had been with the company for 40 years, serving as vice president and president for 15 years, retired to continue as a member of the board of directors. No president was elected to replace him. Instead, in a novel departure in corporate management, the directors placed the active management in the hands of its two relatively young vice presidents, Roberts and Wood.

### Are Presidents Necessary?

Thus the Duplan of today is a corporation that functions without a president. The arrangement seems to work well; and the directors and the two men who divide the operational executive responsibility between them are satisfied with it.

To exercise complete impartiality and write about them in alphabetical order, Hal Roberts, 42 years old, the vice president who bosses Duplan's manufacturing operation, is a tall, lean soft-spoken native of North Carolina. As befits a native son, born of a long line of tarheel citizens, he went to college at his state's famous University of North Carolina. At the end of his first year he left to put in four years

in the Ordnance Department of the United States Army. In 1945, when he was discharged from the Army he returned briefly to college, but was off again a year later to work in a Cuban tricot plant as superintendent. His plunge into textile management was not as sudden as it seemed: Roberts' family as far back as his grandfather had been in textiles, and he had grown up in an atmosphere of cloth manufacturing.

After a year or so in Cuba, he returned to the university and settled down to work for his degree in real earnest. When he graduated in 1950, he went to work at Duplan's big Winston-Salem plant as a trainee. In the next few years, he moved around to Duplan mills at Hazelton and Kingston, being entrusted with greater and greater responsibilities. In 1953, he was shifted to the general headquarters that Duplan at that time maintained in Charlotte, North Carolina, as assistant to John Cochran then vice president in charge of manufacturing. When Duplan got out of the weaving business in 1956, and concentrated on throwing, Roberts was put in charge of manufacturing, and was made a vice president in 1957.

His co-equal in management, Bill Wood, 45 years old, is a Princeton man who entered the Army in 1940 as a second lieutenant and left in 1945 with the rank of full colonel. Between these dates were five years of the toughest kind of combat service in North Africa and Europe as a field officer with General Patton's armored divisions. After a stint as general manager of Gould-Mersereau Co., maker of drapery hardware, Wood joined Duplan as a salesman assigned to finding customers for the firm's commission throwing. He moved ahead quickly, becoming general sales manager in 1954, and sales vice president in 1955.

### Duplan's Face to the Future

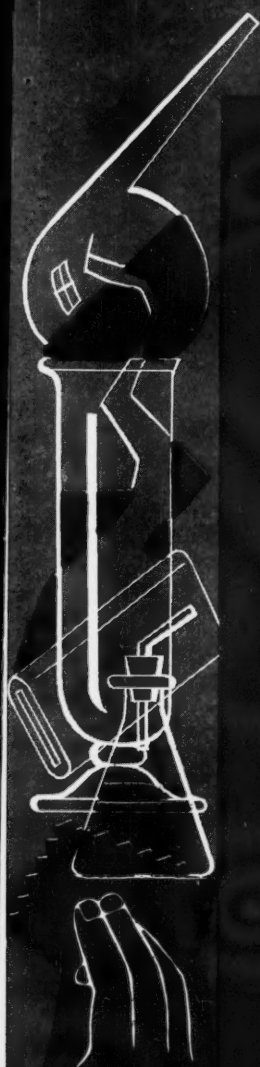
As a processor of manmade continuous filament yarns—largely nylon today but in no sense restricted to nylon—Duplan's business is divided into conventional throwing on the one hand, and on the other, the new expanding field of textured yarns. Added together, both parts of the business make a whole that enables Duplan to describe itself accurately as the world's largest throwster. In its conventional throwing operation, Duplan's biggest portion of volume is putting twist into nylon yarns for the women's hosiery knitters. For such yarns Hanes Hosiery Mills in Winston-Salem is the company's biggest customer.

In textured yarns, Duplan prides itself on its leadership and its versatility. To describe its rich accumulation of know-how in texturing, Duplan has coined the expression "textur-engineers." It regards its production and sales-service staff as textur-engineers able to study the special needs in textured yarns of any customer or potential customer, and provide exactly the right kind of texturing to meet such needs.

Its ability to offer so versatile and well-rounded a texturing service is strengthened by the fact that Duplan has the skill and the equipment to "textur-engineer" yarns in any of the established texturing processes. These include the original Heberlein Helanca method; Leesona's Superloft and Flufion; Bancroft's Ban-lon; Deering Milliken's Agilon and

(Continued on Page 48)

# DYEING and FINISHING SECTION



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# THREE ideas for shortening wool bleaching cycle

By B. K. Easton

**T**HE GROWING USE of blends of synthetic fibers with such animal fibers as mohair and wool is increasing the demand for wool fibers that are at least as white as the synthetics with which they are to be combined. In consequence, new methods are continually being sought which will shorten the period in which the dinginess of wool can be removed. Today most wool is being brightened and bleached by hydrogen peroxide in one or another of three general types of bleaching procedures: dry-in, steeping and immersion. The wool processor who is anxious to meet this new demand and still get the highest production possible from his present equipment, might consider investigating three new ideas.

## Steps to be Taken

One is the addition of a brief steaming step to the conventional dry-in bleach system. The second is the adaptation of the cold bleach method. The third is the development of a short-time bleaching process for wool (similar to that used on cotton) by elevating the temperature as rapidly as possible for a relatively short period.

1. In the dry-in process, the bleaching chemicals are applied from the last bowl of the scouring train. The usual scouring methods, which employ synthetic detergent or soaps with or without soda ash or phosphates in the first two or three bowls, are used. Hydrogen peroxide and a small amount of sulfuric acid are continuously added to the solution in the last bowl of the train by means of siphons with calibrated orifices, or through rotameters, or by means of chemical proportioning pumps. Squeezed as it leaves the final bowl, the wool is dried in a few minutes at air temperatures approaching 200 deg. F. Most of the "brightening" that takes place during the process occurs in the dryer.

The suggested innovation in this procedure is the addition of a steaming operation utilizing a J-box or an enclosed conveyor, or any other equipment which will permit a two-minute steaming of the scoured wool between the time it leaves the bowl containing the bleaching solution and the time it enters the dryer.

Experiments which Becco has conducted have shown that by using a 2% to 4% solution of 35%  $H_2O_2$ , steaming for two minutes, and then drying in the conventional manner, it is possible to bleach raw wool stock to a degree of whiteness nearly equivalent to a 3-volume immersion bleach requiring 2½ hours. This represents a substantial and valuable saving of time. Furthermore, the alkali solubility of this wool is lower than that usually obtained after an immersion bleach. In short, this procedure provides a continuous,

quick and economical method for bleaching wool stock to a good white ready for blending.

2. Though cold bleaching of wool is not as popular as it once was, it is a well-founded process which uses existing equipment but does not tie it up for long periods. This process consists of saturating the material with the bleach solution, setting it aside for a lay period of at least six hours, and then scouring for a short period before rinsing off.

The bleach solution should consist of a sufficient amount of hydrogen peroxide to give a 4- to 6-volume bath and include a polyphosphate such as TSPP (5 lbs./100 gallons), ammonia (3 lbs./100 gallons), and a nonionic detergent. The bleach solution temperature should be 80 to 90 deg. F. During the seasons of the year when the water temperature drops to near 32 deg. F., it is well to heat the water to about 100 deg. F. before adding the chemicals.

The cold bleach procedure has been used very successfully for bleaching worsted top. Of greater interest, however, is the fact that for quite a few years, this procedure has been used to bleach summer suiting materials containing wool, mohair, rayon, and other fibers. Therefore, it would be ideal for bleaching today's blends so as to afford brighter shades when the fabric is dyed or to give a brighter white if the wool is to be left undyed.

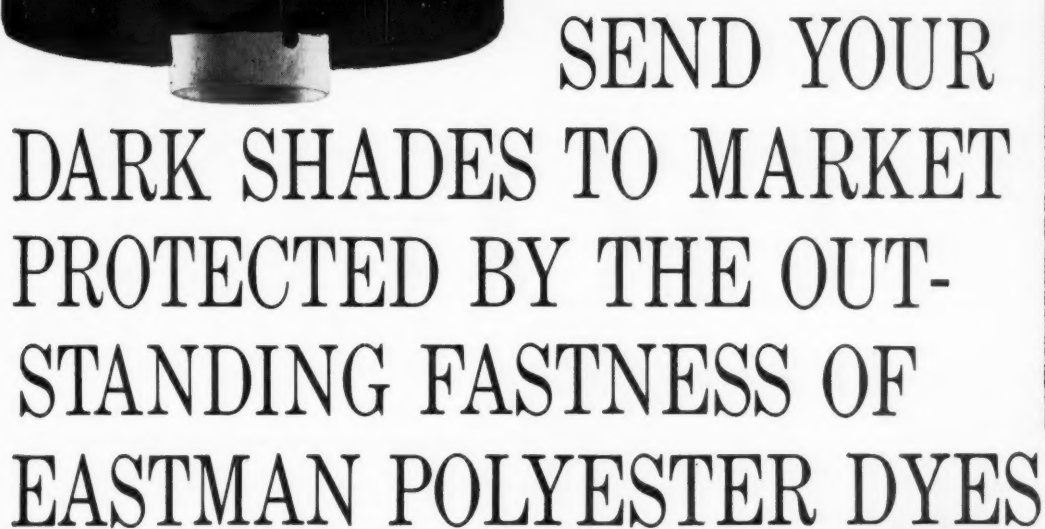
3. The technique of short-time bleaching is one that has mainly been used for cotton. Surprised at the rugged treatment cotton will endure as long as the treating time is short, textile researchers conducted experiments and discovered that it is also possible to bleach wool in a relatively short time. In fact, one mill has been able to bleach wool yarn in an hour by raising the temperature quickly to 160 deg. F. and holding it there for one hour.

In our laboratories at Princeton, New Jersey, similar experiments have gone even further. Outstanding results were obtained by raising the temperature of the bleach solution as quickly as possible to 185 deg. F. and holding it there for 15 to 20 minutes. A 3-volume peroxide bath with 2 pounds of hexameta-phosphate and 1 pound of sodium bicarbonate per 100 gallons was used. The white resulting from the short-time bleach was equivalent to that obtained in a 3-volume bleach run for 2½ hours at the lower temperature of 125 deg. F. The alkali solubility was only a few percentage points higher than obtained from the conventionally bleached wool.

To convert this method to the procedure of the average plant, the most important consideration would be to make sure that the steam supply to the machine would permit rapid heating of the solution. Even though this may seem a drastic departure from conventional systems, the process has given apparently satisfactory results to the few firms which have tried it on yarn, fabric and hose. ■

The author is manager of the textile applications section of Becco Chemical's research and development center in Princeton, N. J. Becco is a division of FMC Corp.





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Polyester Brilliant Orange 2RL

Polyester Orange 3RLN

Polyester Blue GLF

Polyester Blue GR

Polyester Blue 3RL

Polyester Blue BLF

Polyester Blue GB

Polyester Navy G

Polyester Violet R

Polyester Black RB

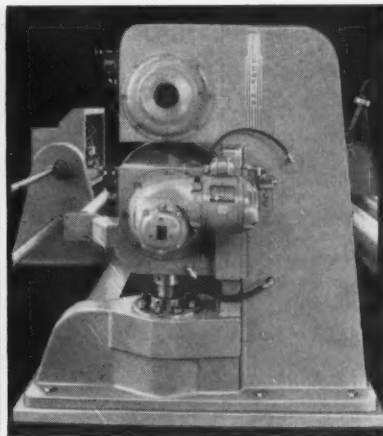
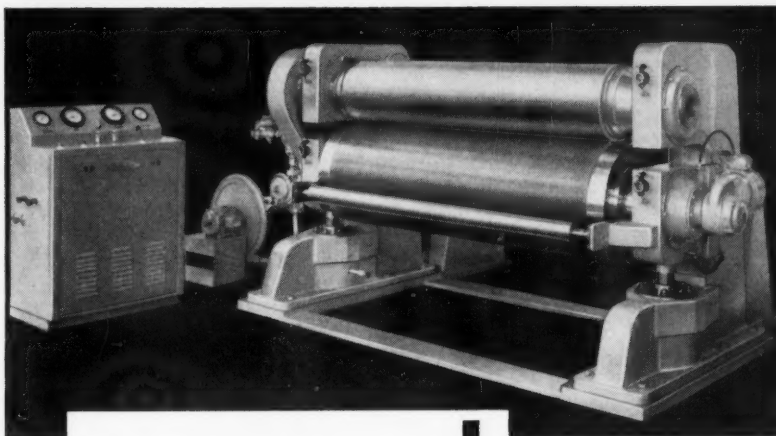
Polyester Diazo Black B

# treasure trove!

Celanese unearths a fabulous museumful of historic fabric designs to inspire magnificent new decorative fabrics for Celanese 1962 home furnishings promotion. From the archives of the Musée De L'Impression Sur Étoffes in Mulhouse, France, come fabrics dating from the time of Marie Antoinette. This collection, the largest of its kind in the world, has been preserved over the centuries, hidden away in the French countryside during the war, reassembled now in the Museum, and brought to light at last by Celanese. The collection includes carefully authenticated documents, historic commemorative fabrics, rare tapestry designs and thousands more—all as yet untouched for commercial use. Celanese has been privileged to take exclusive photographs of these treasures and will make them available to converters for translation into fabrics with Celanese Contemporary Fibers. And we will back these fabrics in '62 with every promotional resource at our command. This promotion is of immediate importance to you. Be sure you're planning a wide range of fabrics with Celanese fibers. There'll be a tremendous demand. And call on our representatives at any time to work with you on new weaves and constructions. Celanese Fibers Company, 522 Fifth Avenue, New York 36 (a division of Celanese Corporation of America).

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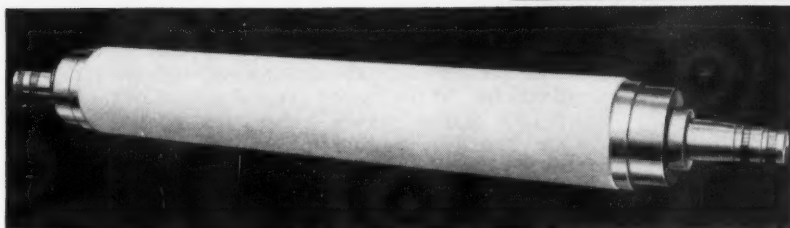
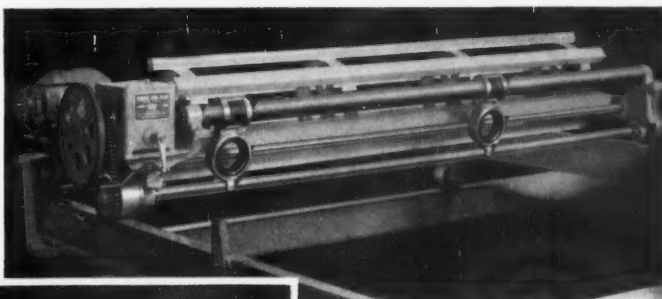


# WORLD- WIDE ACCEPTANCE

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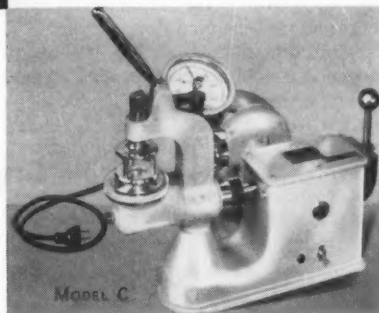
The 2-Roll 60-Ton Hydraulic Schreiner Calender is equipped with self aligning bearings and the Perkins patented bottom roll drive to keep both rolls rotating when skipping seams. The hydraulic unit enables individual pressure control of each side of the calender.

Perkins Bin Pilers are supplied with one, two; three or four traveling pot-eyes, and in widths up to 120". A real labor-saving unit — over 1,000 installed and operating. ➡



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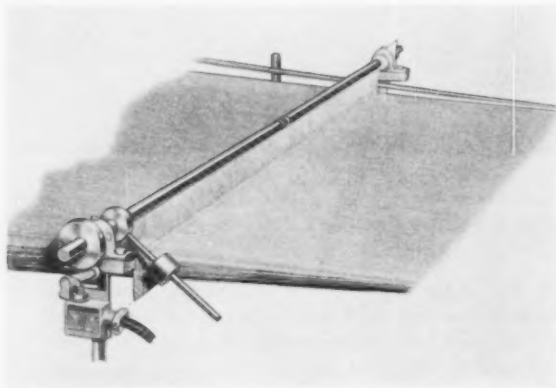
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## Slasher Break-Out Relief

Steel Heddle Mfg. Co., Philadelphia, Pa., has introduced the new Stehedco Slasher Break-out Control, for the prevention of slasher break-outs from tangles and mat-ups. Developed at their Southern Division in Greenville, South Carolina, the Stehedco Slasher Break-out Control is said to be simple and economical, and to save considerable money by eliminating break-outs and preventing downtime. The inverted comb is mounted above the yarn sheets. (See illustration.)



New Stehedco Slasher Break-Out Control prevents slasher break-outs from tangles and mat-ups

If a tangle or snarl reaches the inverted comb, the comb is pivoted forward, activating a microswitch which automatically sets the slasher controls to slow speed. The comb is counterbalanced to offset the natural friction of the yarn sheets, and will react only when an unnatural drag is exerted against it, such as would be the case with a mat-up or tangle.

Steel Heddle believes that this attachment for a slasher will more than pay for itself in a short time after installation. It comes complete with all necessary components and mounting brackets, ready for installation.

## Dedicate Technical Center

Chemstrand Corp. has dedicated its new Technical Center at Decatur, Ala. The center, which includes eight buildings, houses Chemstrand's engineering department, its Acrilan acrylic fiber development facilities, its purchasing department and its applications research and service department.

Functions of the center include the improvement of processes, the development of better fiber characteristics, the development of modifications which adapt Chemstrand fibers to a wider range of application to consumer goods, and the development of new products.

Applications research is the largest unit at the center; it is where textile engineers and technicians test and evaluate Chemstrand fibers on representative machinery used in the textile industry. Included are all types of spinning equipment, looms, knitting machines, a complete dye-house, and a tire lab where tires are built from fabric up.

Other facilities in Chemstrand's scientific and technical program include a nylon development center, adjacent to the firm's nylon plant at Pensacola, Fla., and the corporation's research subsidiary, Chemstrand Research Center, Inc., at Durham, N. C., where fundamental research in polymer chemistry and fiber-forming materials is carried out.

## New Unifil Introduced

Manufacture of a new Unifil Loom Winder has been started by Leesona Corp., Providence, R. I. The new Unifil is engineered specifically for cotton looms using  $8\frac{3}{4}$  inch quills. The new model, designated No. 791, winds quills up to  $8\frac{3}{4}$  inches long and  $1\frac{1}{2}$  inches in diameter. The larger quills to be handled by the new model will further reduce weaving costs, particularly on heavy filling yarn counts, the company states. Leesona also claims that the No. 791 Unifil is capable of winding filling yarns as heavy as 1.25's singles cotton count. Lint protection and other modifications important in cotton weaving which have been made to the earlier model Unifil are also incorporated in the new model.

Leesona has been marketing Unifil Loom Winders since 1957, during which time thousands of units have been placed in mill operation. Most have been applied to weaving applications involving filament or spun synthetic filling yarn, where an 8" quill is commonly used. A survey conducted by Leesona indicates a majority of cotton mills, however, and particularly those in the heavy yarn-count ranges, prefer to use a quill  $8\frac{3}{4}$ " long. This larger quill with its greater yarn capacity lasts longer in the shuttle and reduces transfers. Shipments of the No. 791 Unifil, which may be applied to any single shuttle loom, are scheduled to start in January 1962.

## Olefin Fiber Progress

Montecatini will shortly introduce a dyeable polypropylene fiber, actually a modification of the Italian firm's present polypropylene fiber. A spokesman for Montecatini's wholly-owned American subsidiary, Novamont Corp., said dyeability of the fiber has been obtained by modification of its basic polymer structure. Novamont, currently, is constructing a 25-million-pound-a-year plant for the production of polypropylene resin. The plant is scheduled to start operations this fall.

Covering properties of polypropylene as a carpet fiber, meanwhile, were recently emphasized by Reeves Bros., Inc., at the second general session of the Tufted Textile Manufacturers Association in Miami Beach, Fla. The Reeves program in polypropylene fiber has reached a point where it will be produced for experimental or commercial use in another three months or so. Reeves pointed out the fiber's abrasion resistance, both flexural and impact, good recovery from compression, and ease of maintenance.

## New Celanese Appointments

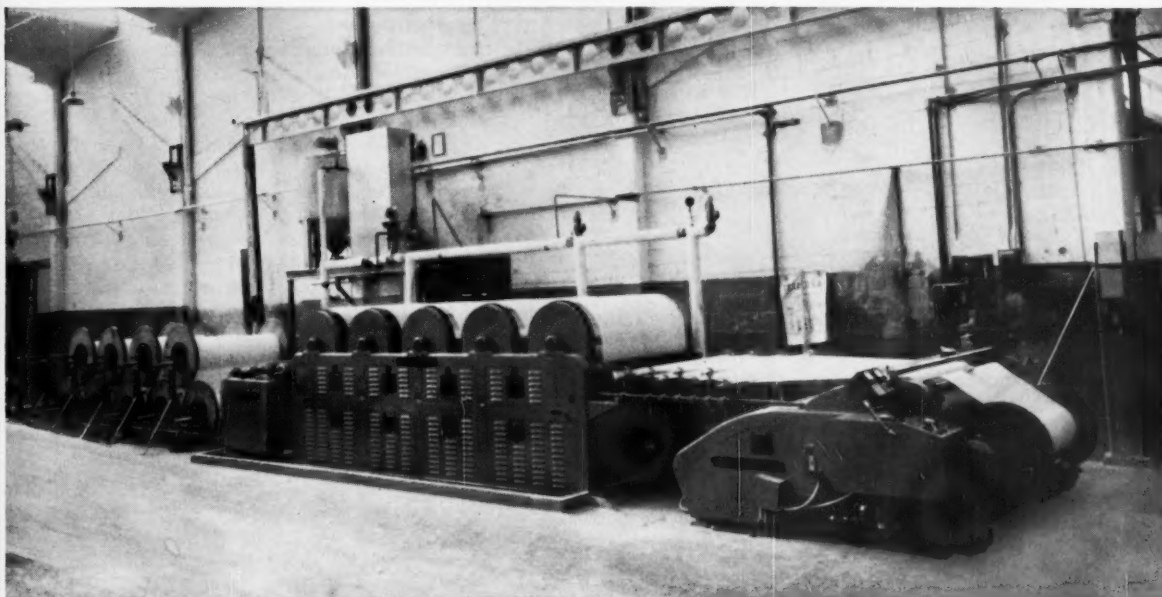
Two corporate officials of Celanese Corp. of America—John W. Brooks, executive vice president-domestic operations, and James R. Kennedy, executive vice president-finance and administration—have been elected directors.

Celanese also announced its foreign activities are being centralized in a subsidiary, Celanese International Corp. Richard W. KixMiller, executive vice president—international operations of the parent company, will serve as president of the subsidiary. He announced the following new officers of Celanese International. Fletcher Horn, vice president and assistant to the president; Harrison C. Givens, Jr., and Robert L. Mitchell, vice presidents; Dr. Howard L. Pilat, assistant vice president.



# MACHINERY and EQUIPMENT SECTION

## ANOTHER RECENT COCKER GH SLASHER INSTALLATION



At TEXTILES "AGA. S. A." Tlalpam, D. F.

Cocker's reputation is world wide, and you will find Cocker Warp Preparatory Equipment in the finest mills everywhere.

The reason is simple. No other company has such an impressive record of firsts, in the warp preparatory field, as Cocker. It is significant that virtually every feature pioneered and made standard by Cocker has been adopted by all other manufacturers.

The Cocker GH Slasher shown here has valuable features which will probably not be offered on other equipment for years to come and gives you "TOMORROW'S SLASHING TODAY". An investigation of Cocker equipment can mean untold savings in the future. Write for our catalog today.

A Cocker GH Slasher  
Installation  
"SOUTH OF THE BORDER"

### Exclusive GH Slasher Features

- Simple, efficient Torque Tube Drive\*
- Individually removable cylinders
- Snap-out ventilating panels
- Light metal sprocket guards
- Air motor loading of size box top rolls
- Vibration-free speeds up to 184 ypm
- Compact, low-silhouette design

\*Pat. Pending

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WARP PREPARATORY EQUIPMENT



**SHRINKLESS CARPET**—In more than 100 vigorous cleanings, Caprolan carpet in airliner shrank less than one-half of one percent.

### Caprolan in Airline Carpets

Collins and Aikman has introduced its "Royal" line of aircraft carpeting produced from Allied Chemical Corp.'s Textured Caprolan nylon. The new carpet has been specified as standard equipment on all of Eastern Airline's passenger planes.

Eastern said it chose the Collins and Aikman "Royal" line because the carpets had a total shrinkage of less than one-half of 1% after more than 100 cleanings. The Caprolan pile yarns, space-dyed by Northern Yarn Mills in natural blue and gold to blend with Eastern's standard interior decor, are said to have good color stability and fastness. Other advantages of the new carpeting include: light weight of 47 ounces per square yard which meets aircraft weight requirements, mildew and fungus proof, non-flammable, and will not ravel when cut.

### Heresite Gets German Patent

A German patent covering the process for the production of a synthetic rubber by using as basic materials butadiene, styrene and acrylonitrile has been granted to C. H. Hempel of Heresite & Chemical Co., Manitowoc, Wis., by the Patent Office of the German Bundes Republic. This patent has been assigned to Heresite & Chemical Co.

The patent application was filed in Germany in 1953. After the thorough prosecution in the Patent Office overcoming various objections raised by the Examiner, the application was allowed. However, Farbenfabriken Bayer A. G., Leverkusen, Germany, the largest chemical firm in West Germany and Europe, filed an opposition to the grant of the patent alleging that the claimed invention was anticipated by the prior art. Counter-statements were filed on behalf of Heresite & Chemical Co. and after a full consideration, the German Patent Office on January 24, 1961 issued a Decree overruling the opposition and granted the patent. Formal issuance of the patent is in progress.

Heresite & Chemical Co. is the owner of this already issued U.S.A. patent and several other synthetic rubber patents in the U.S.A.

### Uniconer Deliveries Delayed

Leesona Corp. has notified textile mills which have placed firm orders for its new Uniconer automatic coning machine that shipments, originally scheduled to begin in the final quarter of this year, will be postponed by approximately 9 months.

"Even though tooling is about 90% complete and raw materials are in inventory for manufacturing", Robert Leeson, president said, "new designs for certain machine components conceived recently by our research division are performing so well under laboratory testing that a delay of production seems wise so that initial Uniconer machines produced will incorporate the added benefits expected.

"Components of new design are now being fabricated and are soon to be installed on the prototype Uniconers which have been undergoing mill testing", Leeson explained. "A period of critical study and exhaustive operating tests under mill conditions on a broad variety of yarns will follow."

The Uniconer is said to provide almost complete automation for the bobbin-to-cone winding process. Its use is expected to result in important economies in textile production as well as an upgrading of yarn quality. A special feature is the incorporation of an automatic knot-tying device at each spindle which will knot a break in the yarn in 10 seconds, as well as tie in new bobbins as the running end is exhausted.

### Textured Modacrylic Introduced

Verel modacrylic fiber is now available in textured continuous filament form for use in carpets, according to a recent announcement by Verel's producer, Eastman Chemical Products, Inc. Available in 2,700 denier at \$1.00 a pound for natural and \$1.20 a pound for solution dyed colors, the yarn is said to be under evaluation by several carpet manufacturers. Solution-dyed colors include light beige, rose beige, brown, green and black. The new continuous filament textured modacrylic fiber is said to have properties of good bulk and cover, good clarity and fastness of color and excellent wear and general performance. Verel is highly flame-resistant. This property has been one of the reasons why it has already found use in staple fiber form in carpets in blends with acrylic fibers.

### Sock Stretch—How Much?

A standard specifying for sock and anklet manufacturers "how much stretch to put into a stretch sock" has been published by the Commodity Standards Division, Office of Technical Services, U.S. Commerce Department. The Commercial Standard is No. CS234-61, reported to be endorsed by a majority of the producers, and which provides definite stretch allowances for each size and each classification.

The OTS also has published a "Handbook of Fibrous Materials," which is a consolidation of data on fibrous materials research. It contains information on various phases of basic design, sewability, friction, and other physical properties of different yarns, cords, webbings and fabrics.

Copies of CS234-61, "Measurements for Stretch Socks and Anklets," may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., at 10 cents a copy. The report on fibrous materials (Order No. PB-171-494) may be purchased from OTS, Washington 25, D.C., at \$6 per copy.

W H I T I N   H A S   A   W A Y   W I T H   T W I S T E R S

*...in Novelty Yarns*

# KING SIZED packages mean KING SIZED savings!

King-sized packages made on a Whitin Pacemaker Twister carry up to four times as much Novelty Yarn as those on an average twister.

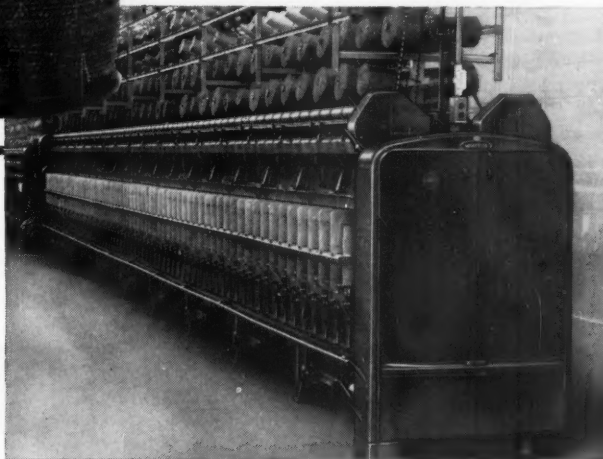
These giant packages — the result of combining the productive capacity of the Pacemaker Model P Twister with the flexibility of the Type C1 Novelty Yarn Attachment, make possible king-sized savings, too — savings such as: a major reduction in knots; sizeable reductions in doffing and maintenance time; and greater production per square foot of floor space.

The Pacemaker Model P is a competitive, high speed, skillfully-built Twister capable of producing, with little or no loss in operating speed, bobbins of 11" traverse and up to 5" in diameter, using 5½" diameter rings.

The famous Whitin Type C1 Novelty Yarn Attachment already has an established reputation for excellent performance based on its precision, its simplicity and its versatility.

## FEATURES:

- Fewer knots
- Reduces doffing time
- Reduces maintenance time
- Greater production per square foot of floor space
- High-speed operation
- Duplex Splash Yarn and Rocker Motions — optional



In bringing together this unusual cost-cutting combination, Whitin effectively meets today's increasing need for large knotless packages in the heavy fabric field — for products such as domestic upholsteries, automobile fabrics, rug yarns and draperies.

See your nearest Whitin representative for details.

# WHITIN MACHINE WORKS

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*The best way to better yarns*



# RASCHEL NET SPECIALISTS

**Fablok Mills has grown steadily since 1952  
making nylon nets for specialized end uses**

**W**HEN ASKED ABOUT the present status and potential of industrial raschel nets, Jack Rachleff, vice president for sales of Fablok Mills, Inc., quotes from a baseball sportcaster's commentary of the past season to illustrate the widespread influence as well as usage of these fabrics. Baseball players fouling balls back behind home plate have been doing so "onto the screen" for years. During a national broadcast of a game from the San Francisco Giants' new Candlestick Park, however, a batsman "fouled one into the net"—the "net" being one knitted at the Irvington, N. J. plant of Fablok.

At Candlestick Park, the initial replacement of traditional materials and constructions by a raschel nylon net was limited to the area behind home plate. Its proven value has been such that now Fablok has been contacted to produce similar nets for use throughout the Los Angeles Dodgers' long-awaited stadium in Chavez Ravine, California.

The durability and strength of nylon and its resistance to the degrading influences of weather; the elimination of maintenance problems made possible by the knotless, raschel construction; the flexibility of the nets which permits ease of assembling and dismantling; the minimum effort and space required for storage—all these factors have contributed to the rapidity with which raschel nylon net fabrics are finding application in new areas and industries.

Jack Rachleff forecasts, "in five years, raschel knits will be the biggest item in industrial nets." He speaks of expansion from the viewpoint of one who has been closely associated with raschel nets for the past nine years.

Since Fablok was set up in 1952, it has increased its output, as measured in annual poundage, by 1,000 percent. Raschel knitting machines, all of which are supplied by Kidde Textile Machinery Corp., in

nearby Bloomfield, N. J., have been quadrupled. Fablok's latest expansion is the building of a new plant with 50,000 square feet of floor space in New Providence, N. J., 12 miles from Irvington. The new plant, which will be provided with air conditioning and controlled humidity, will also be equipped with new Kidde machines recently ordered.

When Fablok first went into business, its management deliberately set for itself the task of developing new industrial end uses for raschel fabrics. To this end, Fablok custom builds net fabrics to serve efficiently the specific and individual needs of its customers. When introducing fabrics to new end uses, the company enters into extensive development programs to work out details and overcome the problems inherent in new applications.

Working directly with customers on initial development programs, Fablok's General Manager Ed Marshall has dealt first-hand with these details and problems on locations ranging from missile ranges in Huntsville, Alabama to juvenile furniture factories of the Trimble Co. in Rochester, New York. End results: Fablok nylon nets in missile nose cones to carry anti-static, desiccant gels that absorb moisture while in flight; nylon net sidings for infants' cribs and play yards.

Other projects have produced a special, all-purpose package for a national supermarket chain in which fresh-cut cole slaw ingredients may be completely precessed through washing and drying; a hexagonal mesh for a child's game in which the fabric is suspended within a steel frame by heavy elastic bands to serve as a rebounding surface for thrown balls; luggage retaining racks on aircraft; washing machine lint traps; billiard and pool table pockets.

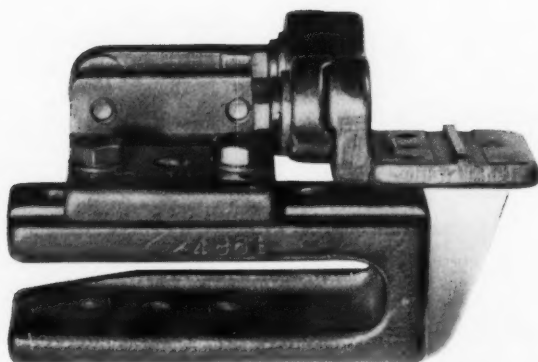
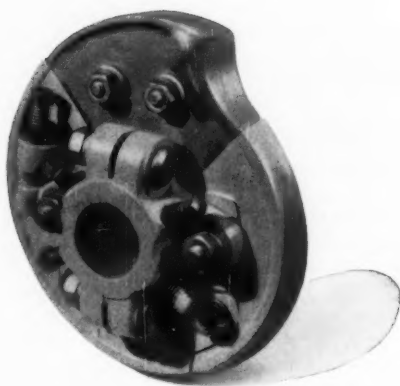
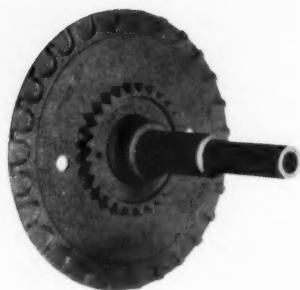
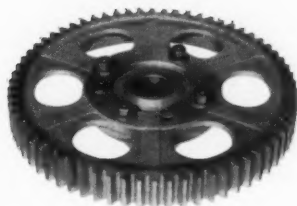
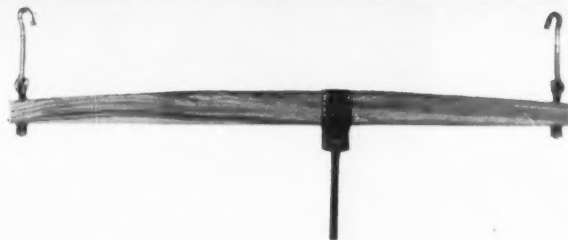
These represent only a few of the uses Fablok has been able to build for a basic fabric which, when the company entered the field, had been associated primarily with laundry bags. Even to the established area of laundry bags, however, which the company manufactures as an end product in addition to producing the fabric, Fablok has brought innovations. Fablok developed the laundry industry's first color-

*(Continued on Page 34)*



**MAKING SURE**—Plant Superintendent, Joseph Raybin, left, and Fablok's general manager, Ed Marshall, check net for uniformity in size of mesh





*Draper  
repair  
parts  
are  
designed  
to  
give  
the  
maximum  
in  
loom  
performance  
...day in,  
day out  
...year  
after  
year.*



**DRAPER CORPORATION**

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

(Continued from Page 32)

fast, chrome-dyed bags, and introduced the technique of sewing chrome-dyed pinning tops of open mesh nylon onto close mesh knitted net bags to give laundries a quick and inexpensive classifying system.

Fablok's dyeing and finishing is carried on at a subsidiary, the Best Dyeing Co., Elizabeth, N. J., equipped with modern machinery including a single-unit Reiner Famatex tenter frame and drying cabinet, along with a number of Benninger tensionless automatic jigs imported from Switzerland and particularly suitable for dyeing power net stretch fabrics for women's foundation garments which Fablok knits in addition to industrial nets. For girdle fabrics, Fablok reports that it developed the first striped patterns.

As important as specific patterns and constructions are for particular end uses, so is the proper finish. These finishes are researched, developed and applied at Best Dyeing. Among the problems Best has had to cope with in the past have been a variety of finish specifications as diversified as the fabrics themselves which range from industrial fish nets of 2800-foot lengths and 300-foot depths to inch-and-a-half strips for securing head rest covers on commercial aircraft.

In order to come up with a nylon mesh to add shape-retaining body to service and sportsman caps such as the General Ridgeway Cap, Best Dyeing had to produce a finish to provide stiffness that would also be pliable. This was finally developed so that soldiers can cram these hats into duffel bags and have them spring back to shape when unpacked. Most major cap manufacturers now use this Fablok fabric.

Besides the scores of innovations and advantages of net that Fablok has introduced to various industries, the company has not overlooked its own immediate trade. Shortly after Fablok began to pro-



**POWER BUILD UP**—The operator is drawing in ends of nylon Flufion yarn for knitting power nets for foundation garments

duce nylon fabrics it realized, because of the size of its machines and the fabrics in production, the advantages inherent in working with larger yarn packages. Fablok approached The Chemstrand Corp., producer of nylon, with its idea to see if it would be feasible for raschel knitting for the fiber producer to wind nylon yarn on beams several feet in length instead of on smaller spools. Fablok entered into an intensive program with Chemstrand at the latter's nylon plant in Pensacola, Florida. After jointly working out initial details in warping, Fablok mounted the first Chemstrand nylon beams on its machines, adapted its own manufacturing techniques to handling of the beams, and entered into the first commercial production of raschel fabrics from beamed yarns.

Today the majority of Fablok's production is from these large beams, with the smaller spools being used only when size specifications of finished fabrics require it. Further, use of the larger beams is now an industry-wide practice. Among other advantages, the technique minimizes time and labor involved in mounting fewer beams atop the machines and provides for a more consistent quality production.

With regard to the next new application of raschel nets, Jack Rachleff feels it is only as far away as the next set of specifications to be received from a new company or industry. As for the overall picture, he is the first to admit that the "net results" are most optimistic.

**CUTTER AT WORK**—Fablok cuts some net fabrics to customers' specifications before shipment



# *"No more tight ends in our warps"*

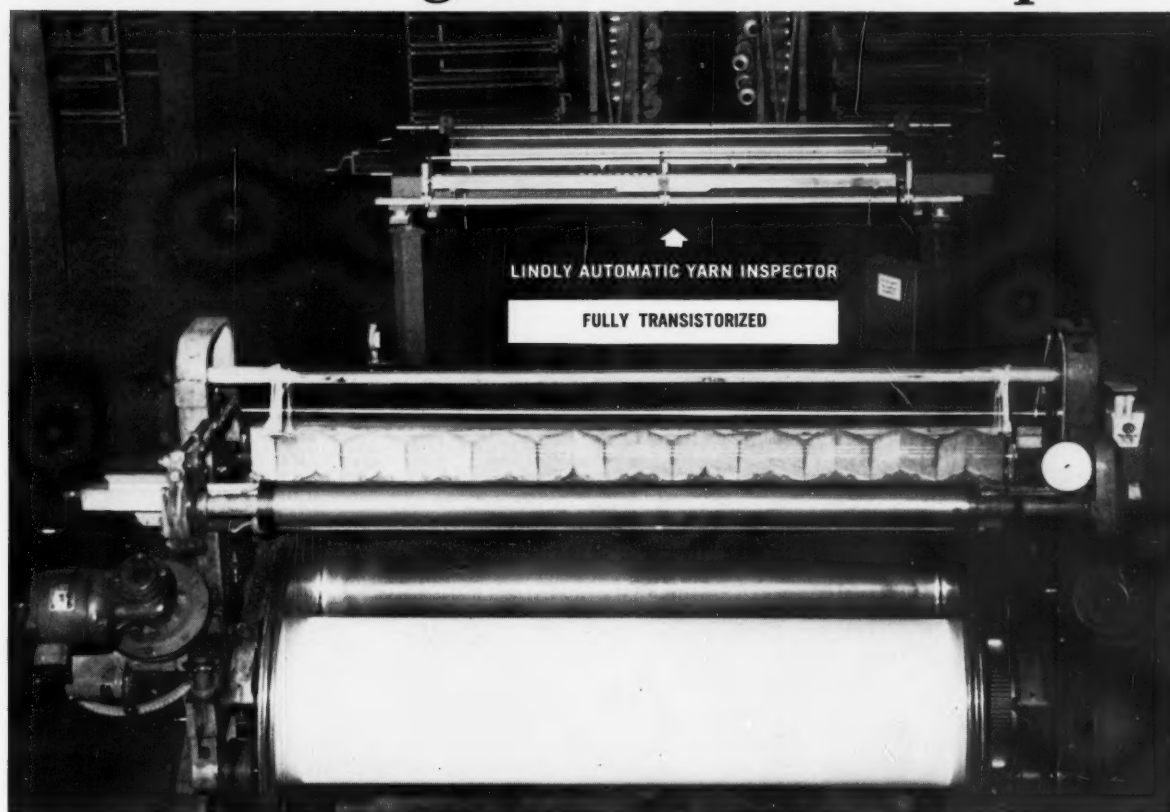
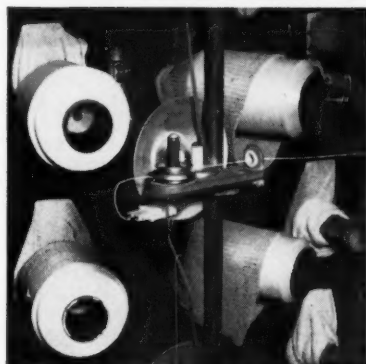
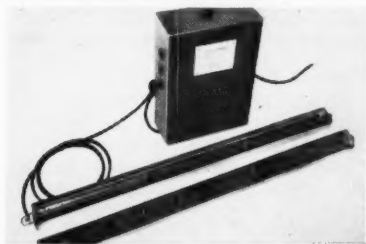


Photo of Yarn Inspector, Electrotense and Static Eliminator at Wm. Skinner & Sons

## **The LINDLY Electronic Triumvirate Gets the Credit YARN INSPECTOR - ELECTROTENSE - STATIC ELIMINATOR**



Closeup of Electrotense in creel.



Lance Static Eliminator — not visible in installation photo.

When we asked William Skinner & Sons, Holyoke, Mass. for a report on their installation of a Lindly Automatic Warp Yarn Inspector, the Lindly Electrotense in their creel and a Lindly Static Eliminator, their answer was prompt and enthusiastic: "No more tight ends in our warps."

However, when we asked them to go back temporarily to warping without the Lindly controls, so we could get some comparative "before" data, they flatly refused. "Why should we go through that again, when we don't have to?" they asked, and we can't blame them.

Since Skinner didn't need comparative data to prove the value of the Lindly Electronic Triumvirate, we doubt if you would either. So why not try an installation? Here's what the triumvirate is and does:

**THE LINDLY AUTOMATIC YARN INSPECTOR** is a high-speed, ultra sensitive photo-electric instrument for detecting yarn defects in warps, such as broken filaments, strip-backs and fluff balls. It can be made to operate a counter, a signalling device, or to actuate a machine stop switch—singly or in combination for any degree of imperfection.

**THE LINDLY ELECTROTENSE** for warp creels, winders, twisters, knitting machines, etc. provides completely uniform tension for any number of ends and the tension for all ends can be varied by turning only one dial. It consists of two conventional discs with an electromagnetic coil beneath. The lower disc is of non-magnetic brass, while the upper disc is of magnetic iron. When the coil is energized through a central electronic control, the upper disc is attracted downward, pressing the yarn between it and the lower disc in any degree desired. The pressure is pulsating, which prevents backup of twist and helps keep the tension discs clean and free turning.

**LANCE STATIC ELIMINATOR**, made in a variety of models, has a textile application wherever static electricity is a problem. It carries a high voltage discharge from pointed electrodes into the air, causing the fibre to be surrounded by ionized air, which serves to discharge the static electricity accumulated all around the surface of the fibre. Whereas the voltage is high enough to ionize effectively the air, it cannot harm the operator, who accidentally comes in contact with the electrodes.

**FOSTER MACHINE COMPANY**  
ELECTRONIC SALES DIVISION, DEPARTMENT MTM-6  
Westfield, Massachusetts, U.S.A.  
Southern Office, Johnston Bldg., Charlotte, N. C.

468-0

# NEW Equipment Machinery

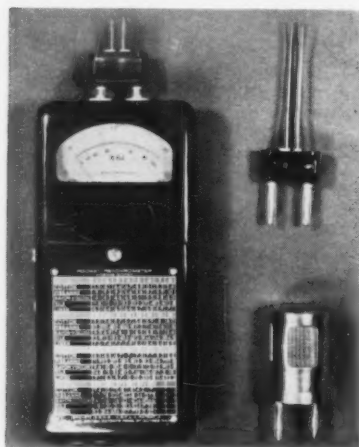
## New Dayco Cots, Aprons

Dayco Textile Products Co. has placed on the market its new Dayco X-98 and X-35 all-purpose cots and its new Dayco X7 aprons. Compounded with a new element, the X-35 cot's heavy duty surface assures positive grip and breaks up surface tension on all fibers, according to the manufacturer. The X-98 also introduces a completely new surface formulation. They are good when used in combination, Dayco reports, with the X-35 on the back line and the X-98 on the front.

The X7 apron is available in all sizes for both short and long systems. Introduction of a new skin-like surface on the outer surface is designed to prevent deterioration of the apron.

## Pocket Psychrometer

A transistorized, battery-operated pocket model of the Hunter psychrometer is now available from James Hunter Machine Co.

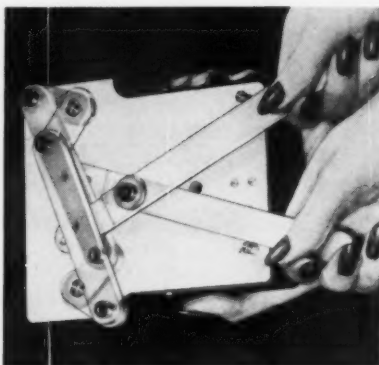


and Hunter, Inc. The pocket unit, complete with sensing element, provides an accurate method for determining the moisture content of raw fibers, yarns in skeins, cops and a variety of packages, and fabrics, as well as wood, paper, leather and bulk materials. For further information write the editors.

## Auto-Calibrator for Yarn Inspector

Lindly & Co., Inc., is marketing its model 1080 auto-calibrator, a

compact, portable auxiliary device to be used in calibrating Lindly yarn inspectors. If it is left permanently connected to the inspector, it will also automatically check on its calibration—in other words, act as an automatic sensitivity monitor. The new device can be used with either the new Series 1000 fully transistorized inspectors or with the older Series 600 equipment. The model 1080 auto-calibrator is being sold through Foster Machine Co. For a technical bulletin describing the device write the editors.



## Automatic Tension Measurement

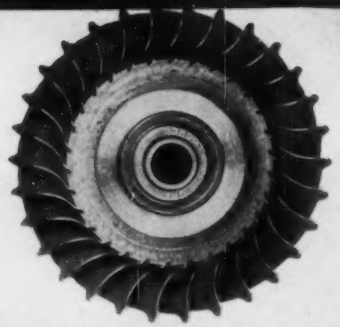
Tensitron, Inc. has introduced a device said to permit quick and automatic tension measurement of any filamentous material under critical conditions. A special compound lever facilitates insertion of the tension meter in moving wires, cords and/or cables under reliable and reproducible conditions. It is said to allow sustained accuracy independent of the operator. For further information write the editors.

## New Weft Straightener

Production of an electronically controlled weft straightener has been started by American Cloth-Strait Co. The machine determines weft irregularities by means of four electronic counters and signals the indicated corrections to conventional canted and rotating arched rolls, which perform the straightening operation. The machine was developed independently with the cooperation of Dan River Mills.

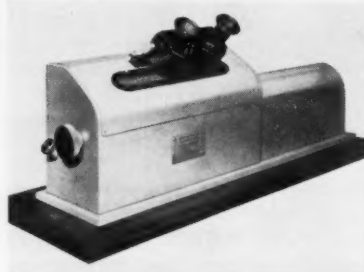
Dan River already has taken four of the machines and orders for six have been placed by Riegel Textile Corp. and Pepperell Manufacturing Co. The machine, made in 60, 70 and 100-inch widths, is called the American Skew-Bow Weft Straightener.

Lindly Auto-Calibrator for Yarn Inspector



## Self-lubricating Knitting Wheel

Crane Manufacturing Co. has developed a new self-lubricating knitting wheel which is available in any size and cut for all Crane knitting machines. A feature of the wheel is a sealed, lubricated-for-life, precision ball bearing assembly which is said to require no additional lubrication of any type during the life of the bearing—normally 5 to 7 years. The wheel comes in four types: landing, finishing, stitch and clearing. The permanent oil seal is said to result in smooth machine operation at higher speeds, no oil damage to cloth, less lint and yarn accumulation, no wasteful cutting of cloth for inside oiling, and lower maintenance costs. For further information write the editors.



## Mount Hope Web Viewer

Visual inspection of moving textiles, printed cloth, paper, plastic, foil and other materials while machines are operating at normal production speeds is reported possible with Mount Hope Machine Co.'s new web viewer. The precision optical device provides close-ups or full-width examination of materials without interrupting production schedules. Although the viewer seems to stop moving materials, the illusion is created by an oscillating mirror system. The viewer may be adjusted to examine patterns of different repeat lengths. For further information write the editors.

## Volume Pumps

Milton Roy Co. has issued a revised 32-page bulletin on "Motor-Driven Controlled Volume Pumps." The bulletin presents a selection data guide, materials selection charts and capacity-pressure selection tables. For copies write the editors.







**Available  
this  
September:**

This Saco-Lowell Rovematic Frame is now in operation in one of the nation's most modern textile plants.

## **Saco-Lowell's New Rovematic Increases Roving Output by 60%... Cuts Operating and Maintenance Cost Even More**

Orders are being taken now by Saco-Lowell Shops for fall delivery of Rovematic Roving Frames. An entirely new concept that breaks with the past, Rovematic delivers a 14" x 7" package of superior roving with a flyer speed of 1,200 R.P.M. maximum and a front roll (1 1/8") speed of 350 R.P.M. maximum.

Rovematic is specifically designed to set new industry standards. On the basis of actual mill experience, the production of 8 Rovematic frames has been equal to 13 conventional frames. Rovematic makes obsolete the heavy traversing carriage, cones, and all related mechanisms.

**Built for Better Performance.** Utilizing the FS-2 drafting system with Tru-Set weighting, Rovematic is easy to operate. Its unique telescoping spindle permits quick doffing without removal of the dynamically balanced flyers.

Because its major components are enclosed in sealed cases and run in oil baths, with all change gears grouped together, Rovematic is the cleanest and the easiest-to-operate frame available.

**Backed by Better Service.** Behind the Rovematic, as behind all Saco-Lowell textile machines, lies a two-fold purpose: to give you the equipment and assistance you need when you need it...and to add to your profits through lower cost. Call in our nearest Sales Engineer today.



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# Manmade fiber ropes in New York Harbor

**M**ANMADE FIBER ROPES for marine use are finding wide acceptance among tug boat operators in the crowded waterways of the Port of New York. The two largest operators of tug boats in New York Harbor are Moran Towing Co. with 85 boats in use and McAllister Brothers with a fleet of 100 boats. Although strenuously competitive in other respects both agree that manmade fiber ropes have made substantial inroads in the marine industry at the expense of the heavier abaca (manila) natural fiber lines that have been used for many years.

According to a check made recently by Dawbarn Brothers, manufacturer of polypropylene yarns for use in ropes, Rod McAllister, purchasing agent for McAllister Brothers, believes that it was simple "dollars-and-cents logic" that won over the marine industry to manmade fiber ropes. "It was only three years ago," he told Dawbarn, "that we put polypropylene lines aboard our first harbor tug for testing. At that time I'd guess the harbor was about 90% manila. The switchover hasn't been complete, but today I'd say that 80% of the harbor boats use some polypropylene, and our own tug fleet is almost 100% converted to the new ropes. We keep putting them on board as quickly as the old lines become unusable."

Captain Leonard Goodwin, marine superintendent in charge of operations for Moran agreed that the harbor now is about 80% in synthetic fiber lines. He added, however, that Moran isn't completely "sold" on 100% polypropylene in all its ropes, as is McAllister. "Our ropes are primarily a combination of various synthetics. We like one in particular that has a nylon core, with polypropylene for a second layer, and polyester fiber forming the outer covering strands".

Goodwin recalls that the first synthetic line ever used by Moran was 100% polyester. "We had it on the tug for more than two years before it began to show



**EASY TO LIFT**—Tugboat man Ross Milton demonstrates one of polypropylene's big advantages in marine lines: their light weight makes them easy to handle

any real signs of wear. Over all, I'd say that our synthetics last at least three to four times longer than the old lines did. In some cases we've had them on a tug as long as twelve months after we had thrown away the natural lines."

Both Rod McAllister and Goodwin agree that adoption of synthetic lines has cut their rope costs substantially. Goodwin reports: "We were able to cut rope costs slightly better than half, based on length-of-life usage." Rod McAllister said about comparative costs: "We used to average about \$80,000 a year on rope purchases. For the last couple of years our purchases of the synthetic fiber lines has dropped our costs between \$48,000 and \$55,000. But that's not the whole story, by any means. Our curve of use shows up better; we don't need to use as many lines, and the men like these lighter lines. They look better, they feel better, and they're a lot easier to handle on board."

McAllister tends to use polypropylene ropes almost exclusively in its harbor operations because it finds them good for close-in work. Moran sticks with the combinations, using six lines per tug, each about 180 feet long.

For sea towing, both firms switch to nylon. Sea tows need stretch, and nylon gives it to them. Neither firm uses the synthetics on their barges. Because rope handling is infrequent, both prefer manila here.

Deckhands interviewed at both firms were greatly impressed by the new synthetic lines. "The first thing about them that surprises you is how light they are, especially the polypropylene lines. You can pick up

*(Continued on Page 48)*

# NEW AUTOMATIC SPOOLER

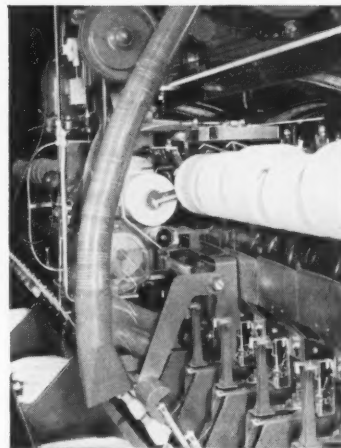
## TYPE "F"



### DESIGNED FOR MODERN SPOOLING FROM LARGE BOBBINS TO LARGE CHEESES

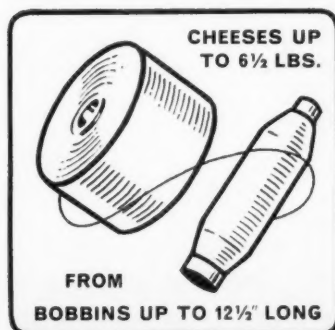
The best features of preceding machines have here been combined with many modern improvements to produce this latest and greatest of Barber-Colman Automatic Spoolers. Increased capacity permits spooling of cheeses up to 6½ lbs. from bobbins up to 12¼" long. Bobbin pockets with

movable skewers are lengthened and improved. Permanently-balanced bakelite drums have new crossover double grooves. Quick-set snick plates, one of the finest yarn cleaners ever developed, are easily accessible. Double cheese-supporting arms have built-in brakes. A radical new feature is an automatic sorter that separates empties from tailings bobbins, eliminating any further handling of bobbins after placing them in the pockets. Another valuable innovation is a tape-breaker mechanism, a simple device that greatly improves the build of the cheese. By using the 6½ lb. cheese, production improvements can be achieved in warping, doubling, twisting, backwinding, sale cones, knitting, unifil, shuttleless looms, or quillers. *For full information on how this new Spooler can benefit you, see your Barber-Colman representative.*



Above, a close-up view of traveler moving along the cheese row, picking up the ends from the bobbins and tying them to the cheeses.

"EVERY KNOT A TRUE WEAVER'S KNOT"



### AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

## BARBER-COLMAN COMPANY

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Batliboi & Company  
Forbes Street, Fort  
Bombay, India

#### MEXICO

J. Rabasa  
Isabel la Catolica 45-913  
Apartado 7348  
Mexico D.F., Mexico

#### BRAZIL

Industria e Comercio de Maquinas S. A.  
Avenida Rio Branco No. 50, Rooms 1201/3  
P. O. Box No. 63  
Rio de Janeiro, Brazil

#### JAPAN

Do-Yei Shoji Kabushiki Kaisha  
Atlas Building (7th Floor)  
11, Bingo-machi, 3-Chome,  
Higashi-ku,  
Osaka, Japan

#### PAKISTAN

Associated Agencies  
(Mex.) Ltd.  
Piccadilly House  
11 Piccadilly  
Manchester 1, England

#### PAKISTAN

Associated Agencies  
(Mex.) Ltd.  
27 Kothari Building  
Napier Road  
Karachi 2, Pakistan



# Butterworth Report Reviews Synthetic Process Development

In a report recently issued by H. W. Butterworth & Sons Co., Bethayres, Pa., the firm outlines the policies it has followed for many years in making machinery for synthetic fiber manufacturers. According to the report, Butterworth's successful activity in this field has been based on non-disclosure agreements with the respective fiber producers for whom it has been designed and made machinery.

The report reveals that the company is currently working with a number of engineering consulting firms on development work in synthetic fibers, and cellophane. The secrecy surrounding this process development work is characteristic of the synthetic fiber industry. "Much of the early know-how in the 20's came from Europe," the Butterworth report says. "The limited number of American manufacturers imported most of their equipment."

"When Butterworth entered the synthetic fiber field in 1929, all of the producers designed and built their own machinery, especially the spinning and after-treating machines which were the essential part of the process. With the rapid expansion of the industry in the next few years, and the entrance of new companies into the field, Butterworth was employed by over-worked engineering staffs for the development of new spinning procedures and techniques."

"One of the results was the Butterworth pot spinning machine for rayon. This machine, designed and built to meet the requirements of individual fiber producers, represented an advance over the foreign equipment then available."

"During the 30's, and early 40's, Butterworth was the only U.S. machine manufacturer producing a commercially acceptable rayon spinning machine. Equipment was supplied to Du Pont, American Viscose, Beaunit Mills, New Bedford Rayon, Skenandoa Rayon, American Enka, Celanese, Hartford Rayon, North American Rayon, Delaware Rayon, and Woonsocket Rayon."

After World War II, there was a tremendous expansion in rayon production abroad. In Latin America, Butterworth rayon pot spinning machines were installed in Mexico, Colombia, Peru, Chile, Brazil, and Argentina. In Europe, installations were made in Greece, Poland, and Czechoslovakia.

Other important installations were in Egypt, and India. In 1949-50, one of the first Indian rayon mills to go into production on viscose yarn built their production around Butterworth spinning machines. At present, there are approximately 200 Butterworth machines in India, and one of the pioneer Indian rayon mills is installing Butterworth spinning equipment for rayon tire cord.

"Development work in the synthetic fiber field is just as confidential today as it was 30 years ago," the report says. "Butterworth has a competent engineering, research, and development staff, and maintains the confidence of the fiber producers. Many of the new techniques, introduced in the last two years, are the result of effective cooperation between chemists, engineering consulting firms, and Butterworth. The continuance of this cooperation will contribute to the rapidly expanding synthetic fiber industry," Butterworth said.

## Research Expanded

Butterworth also made known recently that it has begun an accelerated program of research and development of new machinery for the textile finishing and the plastics industries. The company revealed that its current research program includes work on new methods of dyeing, bleaching and washing woven fabrics and new plastic film ranges. The program also includes adapting many foreign patents for use in the American market. During 1961-1962, the firm will invest about \$200,000 in research and development of new processes and equipment.

Among standard products in the Butterworth line are 84 diversified machines for such functions as dyeing, bleaching, drying and finishing for the textile industry, and spinning and processing machines for the makers of synthetic fibers.

Butterworth also announced that it has been named U.S. sales agent for textile finishing machinery made by Joh. Kleinewefers & Sohne, Krefeld, Germany. According to Stanley Brooks, Butterworth executive vice president, the American firm will import the basic machines, adding instrumentation and electrical drive equipment. The Butterworth service organization will be responsible for maintenance and parts. Kleinewefers' products include printing, mercerizing, calendering and embossing machines.

Brooks noted that a new roller type printing machine with pneumatic pressure nips and a patented method of pattern register is one of the machines in the Kleinewefers line.

## Drop Maxbo Loom

The Maxbo shuttleless loom construction program has been discontinued by Southeastern Loom & Machine Works, Greenwood, S. C. Southeastern has begun discussions with firms interested in purchasing its other assets. All tools, parts and materials connected with the Maxbo program have been moved to storage in Greenville, S. C., according to Edda International, sales agent for the Swedish shuttleless loom.

## Orlon-Rayon Lining

A new medium weight lining of 50% Orlon and 50% rayon, which can be machine washed with maximum shrinkage of 2%, has been introduced by Troy Mills. The low rate of shrinkage of the soft-finished, napped or un-napped fabric eliminates the need for sponging or steaming, Troy reports. Primarily used for body liners and kickers in coats, the liner's minimum shrinkage feature also makes it adaptable for use in purses, shoes and hats.



## **TURBO-ORLON\***

*promotes  
the woven look  
in new  
double jersey*

Double jersey fabrics . . .  
for a wide variety of styles.  
Turbo-Orlon has exceptional  
spinnability and provides clean  
stitching definition. The Turbo Stapler  
permits fiber processing to the finest  
counts. In 80/20 ORLON/WOOL  
combination, this yarn provides  
outstanding cover and drape in  
*new* double jersey fabrics.

Turbo-Orlon is the No. 1 knitting  
yarn for uniform, nep-free, *quality*  
blends. Let a licensed Turbo mill  
help you achieve the desired "woven"  
effects in your knit fabrics.

\*Orlon is DuPont's registered trademark for its acrylic fiber.



## **TURBO-ORLON**

LOHRKE / TURBO

3 PENN CENTER PLAZA • PHILADELPHIA 2, PENNSYLVANIA



**WOMEN AT WORK**—Main assembly floor at Reliable's big Brooklyn plant

## SILENT SALESMEN

**Swatch cards and sample books are indispensable in fabric selling. This firm has built a big, efficient business producing them**

**by Goody Solomon**

**E**VERY PROFESSIONAL has so-called "tools of his trade." For example, the doctor uses a stethoscope, the artist uses paint and canvas and the textile salesman uses swatch cards and sample books. The tools of the textile salesman, however, are uniquely different from the others. In contrast with the stethoscope which won't measure heartbeat without the doctor and the paint and canvas which won't create a picture without the artist, swatch books and sample cards have been known to sell without a salesman.

Appropriately called "silent salesmen," these tools of the textile trades are made by a handful of companies, the largest of which is Reliable Sample Card Co., Inc. Reliable produces a complete assortment, ranging from small cards for direct mailing to books as large as telephone directories, and containing big or little swatches, two samples or a hundred, one line designations of style numbers or complete descriptions of fiber content, recommended uses and values.

In servicing the textile industry with effective sales for improving volume and profit, Reliable apparently has created its own silent salesmen as well. Owner-president Irving Warsoff reports that today, with only two salesmen on his staff, business is better than it was when he employed six. Annual volume is over \$2 million. A small percentage of this, incidentally, is from bindery jobs and the production of greeting card sample books, the company's slack-season activities.

Three years ago, in order to improve its efficiency and service, Reliable moved from an old building in

lower Manhattan to modernized quarters in the Williamsburg section of Brooklyn. It now occupies a 62,000-square-foot former foundry, which was renovated and equipped at a cost of about \$1 million. An adjoining building providing 105,000 square feet of space will be erected shortly to create a plant that occupies an entire city block.

The three-year old plant includes a fully equipped printing and binding operation as well as the factory where swatches are cut from yard goods and pasted on sample cards. It employs approximately 400 people.

Reliable has introduced integrated machine operations to the sample card industry where costly and time-consuming hand production has prevailed. Six automatic swatching machines paste as many as 40 samples in varied color combinations onto the cards and pages. Each swatcher has a capacity of 10,000 cards a day. Some brochures, however, are still swatched by hand. On these jobs, a machine coats the backs of the swatches with paste to eliminate the slow method of brushing on the paste.

In the printing plant, there are 20 presses, two typesetting machines, a gold stamping press and a machine that simultaneously prints and die cuts. All are automatic. The printing presses include Kelly Number Threes which print 5,000 pieces an hour.

Yard goods for the swatches are supplied by Reliable's textile customers. When fabrics arrive at Reliable's plant they are carefully inspected before the first operation of overlocking fabric edges to prevent ravelling. Then the goods are cut to the size required by the design and layout of the promotion

piece. After this, they are pasted in place. The final step is meticulous checking to make certain that every sample bears its correct description. Free delivery—and pickup—is provided in an hour or so anywhere in the New York metropolitan area by a fleet of six trucks that are as colorful as the materials they transport.

Irving Warsoff's business aim can be described as providing mills, converters, manufacturers, and others with fabric sample cards and other visual selling aids that are effective because they are informative and attractive. To help textile men bring their messages to consumers by means of hand tags, two years ago he established the Warsoff Tag Corp.

#### **Cards for Retailers**

Nowadays, the best way to be informative about fibers, fabrics and finishes is to show samples, for the increasing variety of textures, weights and colors must be seen and felt to be appreciated. Warsoff, therefore, believes sample cards should be used at the retail level far more than they are at present, especially to boost sales of piece goods for the home sewing market. He has proposed that swatch cards with concise and specific data about end uses, performance and care, be mailed to retail store charge customers, teachers of home economic classes, women's sewing clubs and 4-H sewing centers. Made in a comparatively low price accordion style, they would be paid for initially by mills, converters and manufacturers. Then, once they have proved successful—as he believes they must—retailers, he anticipates, will eagerly enter cooperative arrangements for more widespread consumer distribution of the swatched brochures and greater sales industry-wide. Warsoff reports that several department stores have already tested this method of building piece goods sales with encouraging success.

Reliable is a 32-year-old family business. Irving Warsoff's son Richard is vice president; his wife Deborah is secretary. Warsoff started his working career in the United States three years after emi-

grating from Russia. His first job, in 1913, was as stock boy for Elder & Turner, also known as the American Sample Card Co. In 1929, Warsoff bought out his employers and renamed the company.

#### **A Father to His Workers**

He is not only the head of his business, he lavishes on it the personal care and extremely human supervision that a fond father gives to the children he loves. Cleanliness and comfort prevail in his airy and spacious plant. There are ample dressing rooms for the employees and a spacious lunch room with vending machines from which to buy sandwiches, soup, drinks and candy.

The Warsoff family's suite of executive offices on the second floor is a home away from home. It includes a kitchen, shower and bath facilities and a conference room. A picture window in the president's office gives a complete view of the plant.

Warsoff is also a benefactor of the community. Head of the local Youth Board and participant in PAL, he sponsors parties and outings for underprivileged children in what is generally regarded as a "tough" neighborhood. He is also active in many charitable, civic and business organizations such as the Textile Salesmen's Association, The Arts, The Awkright Club, the Wool Club, the Weavers' Club and the Knights of Pythias.

Irving Warsoff's fraternal and charitable activities along with his rich lifetime of activity in the New York textile trade have made him a unique businessman, held in high esteem among millmen, converters and textile end product manufacturers. His genial personality, his open-handed generosity toward worthy causes and his lavish hospitality at industry functions have deservedly won him innumerable friends. The services provided by his Reliable Sample Card Co., supported by his tireless work and devotion to the industry, make Irving Warsoff one of the truly admirable men on the American textile scene.

**Reliable's  
Management  
Team: Richard  
Warsoff, treasurer  
left; Deborah  
Warsoff, secretary,  
and Irving  
Warsoff, president**





to assure

## Functional Satisfaction

in your

## NYLON OUTERWEAR SHELLS

specify

**Nyl-de-Luxe®**  
PROCESS

by



AMERICA'S LEADING FINISHER OF  
FINE SYNTHETIC FABRICS SINCE 1936

## NEW FABRICS

### NEW YARNS

#### Dynel for Battery Plates

Dynel fiber flock cut in uniform lengths from  $\frac{1}{8}$  to  $\frac{1}{2}$ -inch is now being offered to battery makers by Microfibres, Inc., formerly Rayon Processing Co. Use of short Dynel fibers to reinforce plates of lead storage batteries and prolong their life has been increasing, according to Microfibres. Dynel flock has been furnished in experimental quantities for this purpose by Union Carbide Chemicals Co. for several years. The fibers assist in making a more workable lead oxide paste for the positive plates of the lead storage cells. *For further information write the editors.*

#### Troyfelt Buffing Pad

S. C. Johnson & Son, a manufacturer of wax, now supplies Troyfelt, a nonwoven of viscose rayon, as the wax applying and buffing pad for its rental polisher-scrubber. The Johnson Wax people report they chose Troyfelt over other materials because it resisted wear, maintained its shape and spread wax more effectively. The nonwoven rayon Troyfelt is produced by Troy Mills.

#### Tusson Rayon Curtains

Tusson, American Bemberg's new slubbed rayon, recently marketed in lightweight blends with silk for blouses and dresses, is now going into curtain and drapery fabrics in blends with other rayons. Deniers of 450 and over are being used. American Bemberg describes Tusson as being more like silk than anything yet developed in the manmade fibers field. It is related to Cupioni but described as being softer and more finely, frequently and irregularly slubbed. Color effects are achieved through a special, exclusive process, American Bemberg reports, without twisting to form a single yarn. Special process Tusson is now available in deniers of 315 and over. *For further information write the editors.*

#### Creslan-Rayon Fabric

Full production of a new woven fabric, Bellezza, a yarn-dyed blend of 50% Creslan acrylic fiber and 50% rayon, has been started by Franklin Manufacturing Co., selling agent for the U.S. Royal Textiles Division of U.S. Rubber Co. Bellezza is reported to be completely machine-washable, needing little or no ironing. It is highly wrinkle resistant and will retain permanent pleats. The new fabric was created for the misses, juniors and children's markets for Fall, 1961.

#### Uncoated Nylon Tent

"Easy Livin'," a new 4-ounce tent fabric developed by Burlington Industrial Fabrics Co. in cooperation with Du Pont, is of 100% uncoated nylon. The fabric stems from a new technique in weaving and finishing that provides breathability—space between the fibers to permit free circulation of air—plus resistance to water penetration without coating. Du Pont's Type 330 nylon is used in the new tenting fabric, said to weigh only about half that of conventional tent fabrics. Unlike heavier weight fabrics, it is said to be easily portable in tent form, folds and rolls compactly, dries rapidly, doesn't stiffen in cold weather, is resistant to rot and mildew, and has great strength. *For further information write the editors.*





## TDI's "Review of Reviews" Big Hit



Bill Radebaugh of Du Pont, Producer-Director, left, and Van Dionne, Reeves Brothers, ham it up for laughs



Bruce Roberts of Eastman, Asst. Producer-Director, spoofs an operatic aria



Bill Lutge and Bud Schlesinger of Chemstrand softshoe down Nostalgia Lane



Irving Roaman, Reliable Textiles, and Lou Brenner, Shirley Fabrics, in a comedy turn

## Fresh Light on Labeling Problems

In a recent bulletin to its members, the Textile Distributors Institute discussed a number of comments TDI members had received from the Federal Trade Commission in regard to the form of labels which they were using. In the belief that these comments may serve as a guide to others in the industry in preparing their own labels, the publication of the text of the bulletin has been authorized by Miss Hilda A. Wiedenfeld, executive director of TDI. The text of the bulletin follows:

"Our counsel, Weil, Gotshal & Manges, has advised us of several recent interpretations in regard to this question.

"(1) Identification on a label of a fiber not present in the product. In our Bulletin #2221, dated March 21, 1960, the membership was advised that under Rule 18 of the Fiber Labeling Law, it is not permissible to show on a label the name of any fiber not in fact present in the product. This is an absolute prohibition so that the fiber may not be named even though it is referred to in a descriptive sense and is not deceptive. For example: Terms such as "Feels like Silk", "Silk-like Lustre", or "Woven to look like Linen" may not be used where the fiber named is not present in the product. This restriction applies whether the descriptive phrase is used on the same label showing the required fiber content information or on a separate label attached to the product. Rule 17 provides that where a fiber name or trademark is shown on any label, whether required or non-required, a full fiber content disclosure must be given. In view of this requirement Rule 18 then becomes applicable which would prohibit naming any fiber which is not present.

"(2) Rule 3 provides that no fiber which is present in the amount of 5% or less may be designated by name on a label but can only be referred to as "other fiber". Therefore, a label which shows a named fiber present in the amount of 5% is incorrect on its face.

Only fibers present in an amount of more than 5% may be named.

"(3) Rule 9 contains an absolute prohibition against showing the name of a fur-bearing animal on a label. This prohibition applies to any form in which the name appears—whether as a trademark, in a descriptive sense, or otherwise, unless the hair or fiber of such animal is present.

Where a fiber trademark is shown on a label, it must be shown in "immediate conjunction" with the generic name in the first place where the generic name appears on the label. The Commission had interpreted Rule 17 to require that the generic name and fiber trademark must be shown successively and may not be separated by another word. The trademark may either precede or follow the generic name.

Whereas a fiber not present in a product may not be named on a label, it may be identified in advertising in a non-deceptive manner for comparative or descriptive purposes. Therefore, in advertising it is permissible to use terms such as "Rayon that looks like linen" or "Acetate with the lustre of silk". It is suggested in such advertising to avoid showing first the name of the comparative fiber which is not present. Thus the phrase "Silk-like Rayon" might be considered deceptive in that it might suggest that the fiber present is silk.

In our Bulletin #2290, we advised you of an interpretation issued by the Federal Trade Commission concerning the designation of "Pima Cotton". The Federal Trade Commission has indicated that "Pima Cotton" is a fine cotton with long staple lengths averaging more than 1½ inches of the "Pima Barbadosense" specie. In the opinion of the Federal Trade Commission, the particular specie is significant since not all long staple fine cotton is entitled to be designated as Pima. The FTC states that such Pima Cotton is grown in the United States only in the southwestern states, primarily Texas, New Mexico, Arizona and California.

## New Tire Cord Fibers

"Encouraging progress" in the development of two families of synthetic fibers for use as a new tire cord has been reported by Goodyear. The two new groups, polyester and polyolefin, have undergone extensive research and testing, according to the company's fabric and adhesives development section. The ultimate winner, Ted M. Kersker, development manager, said, may be determined by molecular control.

Kersker reports the polyesters show the most immediate promise of the newer fibers. Experimental tires with polyester cord construction are said to exhibit the high strength and bruise resistance of nylon cord tires, but without flatspotting. A new adhesion system has provided momentum to development of this fiber, he said.

Polyolefin fiber, however, appears to hold the most potential advantages in long-range development, according to Kersker, who called the material "the most important fiber discovery since nylon." Polyolefin advantages include high strength, good fatigue resistance and light weight, a factor in producing a cooler-running tire.

It is also lighter than nylon, Kersker said. Both the polyolefin and polyester fibers are made from petroleum derivatives, and depend on reactive processes in which chemical linkage ties together groups of molecules to form long chains of super molecules.

## Help Against Imports Promised

Relief from import competition for other fibers as well as cotton has been pledged to textile-State Congressmen by the Kennedy Administration. In a letter to Rep. Carl Vinson (Dem., Ga.) and Sen. John O. Pastore (Dem., R. I.), President Kennedy said the State Department has been instructed to act to reach this goal in its activities affecting the domestic textile industry.

The letter is an answer to a protest by 132 House members and 36 senators about the forthcoming international textile conference on cotton textile imports. The lawmakers had protested to the President "the misinterpretation by the State Department of the President's program of May 2, 1961," according to J. M. Cheatham, president of the American Cotton Manufacturers Institute. ACMI directors had adopted a resolution criticizing the State Department for undertaking international negotiations on textile trade limited to cotton products.

The resolution said the fiber-textile-apparel industry import problem must be dealt with as the one related problem it is. It pointed out that the State Department, "without any consultation with the textile industry, has devised another piecemeal program which would deal inadequately with cotton textiles and exclude entirely wool, silk, and manmade fiber textiles."

# Use this control chart TO CHECK WARPER BREAKS

By Norbert Lloyd Enrick\*

**A** CONTROL CHART for warper breaks or warper stops, such as illustrated in Figure 1, serves as a daily tool of management in knowing when the rate of breaks has gone beyond allowable limits. Quick corrective action can then follow immediately.

The chart in Figure 1 shows that, for the period covered, there were no out-of-control conditions. On the 4th, and again on the 19th and 20th of the month, the rate of breaks came close to the control limit of 7 breaks per 10 million yards. However, since the limit was not exceeded, the fluctuations observed may be considered those to be expected and normally allowable. Also, by keeping such a control chart in view of operating and supervisory personnel, any trends towards the control limits, such as the series of points from the 18th to the 20th of the month, become apparent to the personnel concerned, and remedial measures can often be initiated by them.

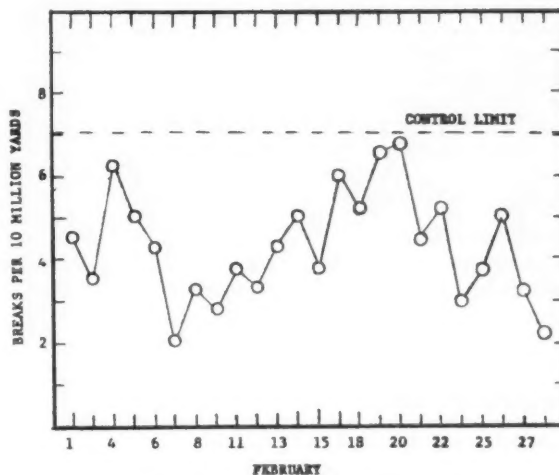


Figure 1—Control Chart for Warper Breaks

\* University of Virginia, Charlottesville.

## Exhibit A CALCULATION OF CONTROL LIMIT FOR WARPER BREAK CHART (Illustrative Example from a Filament Warper)

### Step 1: Obtain Data from Past Experience

The records showed that break studies were usually made long enough to cover approximately 40 million yards of warped yarn. The average number of breaks recorded during each observation period was 16.

### Step 2: Calculate the Standard Deviation

For the present type of data, the standard deviation is simply the square root of the average. For our example, with 16 breaks per 40 million yards, the standard deviation is  $\sqrt{16} = 4$  breaks per 40 million yards.

### Step 3: Calculate Preliminary Control Limit

The general formula for calculating the Control Limit is:

Control Limit = Average + (3 × Standard Deviation).

For our example, with an average of 16 breaks and a standard deviation of 4, we have:

Control Limit =  $16 + (3 \times 4) = 28$  breaks per 40 million yards.

Thus our preliminary control limit is 28 breaks per 40 million yards. However, since it is customary to speak in terms of "breaks per ten-million yards", we must now convert the control limits to that basis, as shown in the next step.

### Step 4: Calculate the Control Limit to Appear on the Chart

Since the data in Step 3 are in "breaks per 40-million yards", and we wish to plot our chart in terms of "breaks per 10-million yards", our conversion factor becomes:

$$\text{Conversion Factor} = \frac{10 \text{ million yards}}{40 \text{ million yards}} = \frac{1}{4}.$$

Now, multiplying the preliminary control limit of 28 by this  $\frac{1}{4}$  yields 7 as the proper control limit to appear on the chart. This 7 is in terms of "breaks per 10-million yards."

### Step 5: Draw the Control Limit on the Chart

The value of 7 breaks per 10-million yards from Step 4 is now drawn in on the control chart, and the chart is ready for use in plotting actual breaks in terms of breaks per 10-million yards, as shown in Figure 1.



before an out-of-control condition must be brought to the attention of management.

While it is possible to establish control limits solely on the basis of past experience and judgment, it is usually preferable to use the more precise limits that can be determined from some simple calculations.

### Calculation of Control Limits

The statistical calculation of control limits uses past data and then applies a set of five steps of computations, as illustrated by the example in Exhibit A. The essential feature of these steps is to evaluate the basic variability of the warper, usually expressed in terms of "standard deviation" as shown. Next, a control limit is set at three standard deviations above the average rate of warper breaks. Such a control limit is technically known as incorporating a 99.7 per cent confidence level. In other words, only 3 times out of a thousand would an erroneous off-standard point occur on the control chart.

### Corrective Action

Once an out-of-control point has occurred, or even before that, when a trend towards off-standard is becoming evident, it will be helpful to review and

analyze the causes of the individual breaks or stops. Any predominant item, such as cone alignment, rough cones, bruised cone, breaks at transfer, no-tail, run-out, slip knot, cut guides, or waste, will contain in itself the clue not only to the cause but also to the corrective action needed.

Often, the causes of off-standard warper stops may be found in the prior processing, and not infrequently it may be found that a particular winder machine or a particular winder operator may be responsible for an undue proportion of such breaks. For this reason, it is desirable to have chalk identifications on the cones, so that causes in the preceding processing can be traced, identified and corrected.

Periodic inspections and checks on winders and warpers, regular maintenance frequencies, and replacement of rough, worn or out-of-alignment parts, will help keep warper breaks at a minimum, thus increasing production and lowering the cost per yard of the fabric produced.

### Literature Reference

- <sup>1</sup> Erick, N. L. "Quality Control through Statistical Methods," Modern Textiles Magazine Handbook, 1954.  
<sup>2</sup> Erick, N. L. "Quality Control," 4th ed., 1960, Industrial Press, New York 13, N. Y.

## Duplan's Future

(Continued from page 22)

the Du Pont Taslan airjet process. Duplan's Kingston and Cleveland plants are exclusively devoted to texturing. At Winston-Salem, texturing is carried on along with conventional throwing operations.

Duplan's strong determination to remain ahead of the field in throwing, and especially texturing, is amply brought home by its heavy investment in equipment. If there is a machine that's good for texturing yarns on a practical commercial basis, you'll find it humming along on a 24-hour seven days a week schedule at one or all of Duplan's plants. As an example of its modernity and willingness to spend heavily for good equipment, Duplan has been among the first to install the new Deering-Milliken Agilon texturing units made by Hobourn in England. These

machines are expensive—\$210 a spindle; but at the same time they are productive and Hal Roberts thinks well of them. Among other brand-new equipment at Duplan is a battery of the Leesona 553 machines which turn out the popular Superloft yarn at 350,000 revolutions per minute spindle speed. For these and other new equipment Duplan since 1957 has spent more than \$2 million.

With its unsurpassed know-how in textured yarns, its splendidly modern plants and equipment, Duplan of today, Hal Roberts and Bill Wood believe, is a textile outfit peculiarly well-fitted to expand with the changing shape of tomorrow's textile industry. The biggest element in the expanding potential ahead of Duplan, they are convinced, is textured yarns and notably stretch yarns for woven fabrics. They are confident that the new Duplan is in admirably hard-muscled shape to wrest for its stockholders a good share of the profits that lie in this future.

## Marine Ropes

(Continued from page 38)

the whole length of the line, all 180 feet of it, and hold it above the deck", said a deckhand aboard the "Ellen F", one of McAllister's fleet, and he hefted the whole line in both arms. "You try to do that with the same footage of manila and I don't think you could even lift half of it clear."

In this connection it is worth noting that one hundred feet of polypropylene 8½-in. line weighs only 130 lbs. The equivalent length of manila would weigh almost 300 lbs. Moreover, breaking strength of the polypropylene line would be nearly one-third greater than that of the manila line.

There were other advantages cited by deckhands of both firms, such as the fact that polypropylene handles well despite exposure to oil and chemicals because the fibers have good resistance to them. The fact that the polypropylene lines floated was a

great help in handling; you always knew where the line lay in the water. Moreover, because polypropylene never absorbed water, it weighed the same wet or dry; no added "hands" were needed to haul it in.

## Nopco Foam Expansion

Nopco Chemical Co. is expanding in the urethane foam field—both in the producing and fabricating end. The firm's plastic division new producing and fabricating plant is on stream at Chattanooga, Tenn. while Nopco has acquired six Midwest foam companies from the D & W Clark Corp.

The Chattanooga plant, with an initial capacity of more than 4 million pounds of foam annually, primarily will be devoted to manufacturing and fabricating flexible polyether urethane foams for the textile, quilting and bedding, furniture, boating, aircraft and automotive industries. Nopco produces both flexible and rigid—pour-in-place—types.



## Harder Porcelain Enamel

A newly developed porcelain enamel coating for aluminum, said to be harder than glass has been announced by American Lava Corp., Chattanooga, Tenn., a subsidiary of Minnesota Mining and Manufacturing Co. The new coating is available with controlled surface finishes.

The enamel shows a hardness of 6.75 on the Mohs' scale. Abrasion resistance up to 17 times that of standard porcelains for aluminum has been shown by the Taber abrasion test. Controlled surface finishes from 6 to 60 micro-inches, rms, are available. Called 3M brand porcelain enamel, it is designed for use where an abrasion, acid and solvent resistant coating is desired for aluminum parts. High abrasion resistance for large surfaces, unobtainable in the ceramic form because of size, is now possible.

In a textile industry application, where aluminum heat shoes were coated as a protection against an abrasive synthetic tow, the new porcelain enamel lasted 11 times longer than chrome plated steel shoes. In a second application, tension fingers coated with the enamel showed no signs of wear after 6½ months of constant production of highly-abrasive synthetic fiber. Chrome plated fingers required replacement every 30 days.

The ability to give aluminum shapes an abrasion resistant surface is said to open new opportunities in synthetic textile guide design. Where guides and shoes must be heated, it is now possible to take ad-

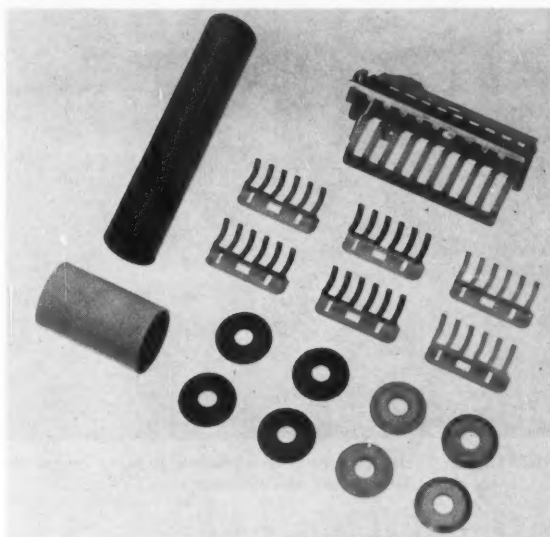


Illustration showing aluminum thread guide items with enamel coating used in the manufacture of synthetic fibers.

vantage of the superior thermal conductivity of aluminum. The lead-free porcelain enamel can be made in a variety of colors to meet various requirements. Additional information on 3M brand porcelain enamel may be obtained from the American Lava Corp., Titania Division, Chattanooga 5, Tenn.

## Wachter Now Textile Consultant

Arthur R. Wachter, who recently retired from the position of head of converting relations for American Viscose Corp., after 20 years in that post, has established a textile engineering and consulting service in the Pacific Coast area. His new business address is P. O. Box 75-331, Sanford Station, Los Angeles, Calif.



Arthur R. Wachter

In his new business Wachter will specialize in dyeing, finishing, printing, converting and fabric supply problems. He is a trained chemist with long practical experience in the application of dyestuffs and auxiliary chemicals to textile piece goods.

## Brownley Gets New Post

John W. Brownley has been appointed vice president of marketing of Industrial Rayon Co., a division of Midland-Ross Corp. Brownley, previously vice

president of manufacturing for Industrial Rayon, moves into the position vacated by the retirement of George I. Rounds who started with the rayon company in 1923. Rounds will continue to serve the company in a consulting capacity.

Before joining Industrial Rayon in 1959, Brownley was executive vice president of Industrias Consolidadas de Matanzas, major rayon producer in Cuba. A graduate of Virginia Polytechnic Institute, he also was with Du Pont in management posts at its Richmond, Va., and Buffalo, N. Y., rayon plants.

Rounds was assigned to the sales staff of Industrial Rayon in 1926 following three years of supervisory production responsibilities. He was named tire cord sales manager in 1948 and was elected vice president of marketing in 1958.

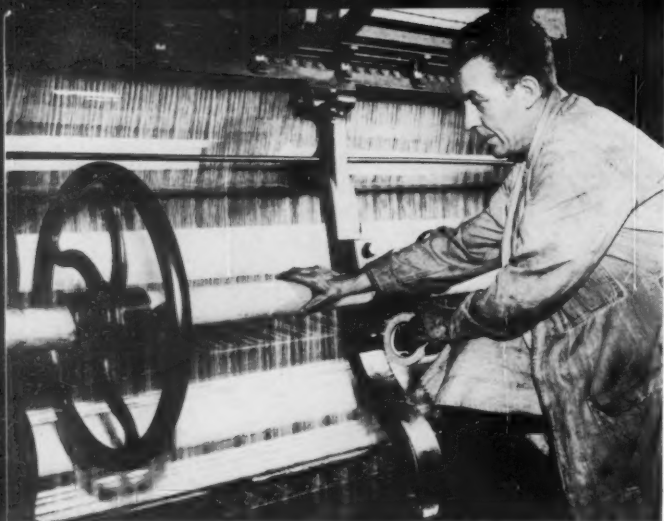
## Whitin Personnel Changes

Whitin Machine Works has made a number of changes in its sales and marketing personnel. J. Lawrence Orr is now product manager-cotton machinery, at the main offices in Whitinsville, Mass. Other changes include:

Harry B. Patterson has been named regional sales manager of the Charlotte-Greensboro, N. C., area; Lucius H. Hair is now assistant regional sales manager for the Charlotte-Greensboro area, and Wm. J. Dunleavy has been named to the newly-created post of manager of field services.

Recently concluded contracts by Whitin include:

Kendall Co., Mollohon plant, Newberry, S. C., has purchased 14 new high-speed, 2 delivery model M7 Even-Draft drawing frames; Spartan Mills, Beaumont Division, Spartanburg, S. C., has purchased 32 of the M7 models, and Bates Manufacturing Co., Edwards Division, Augusta, Me., has purchased 12 model M6A Even-Draft drawing frames, 12 deliveries each.



**HAZARD REMOVED**—Cyril Faulkner of Nalpac is shown closing the slit Sonoco convolute fibre tube with masking tape.

### Paper Tube Promotes Safety

How to protect the operator of a lace machine

## TEXTILE — NEWS BRIEFS

#### Avisco Retains Krauss

American Viscose Corp., maker of Avisco rayon and acetate, has retained the services of Paul Krauss, A.I.D., to act as design consultant for the corporation's advertising, publicity and merchandising programs in the home furnishings field.

#### 'Milium Plus' Lining

Deering Milliken, Inc., has introduced Milium Plus, a lining-plus-insulation for the women's and children's wear market. The new lining features a thin layer of laminated foam coated with insulative particles. The resultant fabric is said to provide better insulation, in addition to improved resiliency and increased wrinkle resistance while retaining porosity. For further information write the editors.

#### Name Research Director

Dr. Anton Peterlin, now head of the Physics Institute at the Technische Hochschule in Munich, Germany, has been named director of Research Triangle Institute's Camille Dreyfus Laboratory at Research Triangle Park, N. C. He will assume his duties at the polymer research lab on September 1. The Dreyfus Laboratory, one of five divisions and laboratories within RTI, will be devoted entirely to fundamental research in the science of polymers. Funds for the laboratory and the initial program of research were provided in a

\$2,500,000 grant made to the Institute in late 1959 by the Camille and Henry Dreyfus Foundation. The laboratory will be a memorial to the Swiss-born scientist who founded Celanese Corp. of America.

#### Textile Fiber Booklet

Burlington Industries has compiled and published a detailed 84-page study, "Textile Fibers & Their Properties." Encompassing the major textile fibers—manmade and natural—it includes the following classifications: generic names; fibers and their properties; technical data information; a fiber glossary and generic classification of fibers by trademark. Information and data is based on tests made at Burlington's Research and Development Center, Greensboro, N. C. Distribution of the booklet is restricted to the textile trade, and requests for copies must be directed to Burlington Industries, Greensboro, N. C.

#### Celanese Retains Draper

Celanese Fibers Co. has retained the services of Dorothy Draper, interior designer, to work out new uses for ready-mades and room settings for the "Scene Changers" promotion of ready-made bedroom ensembles, curtains, draperies, cafe curtains, slip covers, closet accessories and shower curtains. Mrs. Draper will design 20 interiors which will be set up in the National Design Center auditorium in New York City.

#### J. E. Spears Retires

Jackson E. Spears retired from active duty at Burlington Industries, Inc., on August 1, 1961. Although he has resigned as vice president, he will continue serving the company as a consultant.

from an exposed rapidly turning drive shaft was a problem that faced Nalpac Co., Montreal, manufacturer of laces. The exposed shaft had proved itself to be a hazard when it had accidentally caught and twisted the loose clothing of one operator, causing an injury. A solution was provided by a paper convolute tube manufactured by Sonoco Products Co., Granby, Quebec.

After a study by Sonoco's sales representative and Nalpac management, a fibre sleeve three inches interior diameter, slit full length, was selected. It was necessary for the tube to be one quarter inch larger in diameter than the shaft.

The Sonoco tube was supplied in lengths of 8 feet and then cut to size. The tubes were fitted into sections between the hand wheels. As a result of being slit, the tube can be slipped over the shaft and then taped. The tubes are reusable and easily removed.

Now if a person leans on the drive shaft, the tube will remain stationary. Officials of Nalpac feel that by using this inexpensive method of covering the drive shafts of their lace machines they have provided a safer operation without hindering the production of the machine.

#### Label Act Inspection

Twenty-seven new inspectors will be hired by the Federal Trade Commission to help enforce the Wool, Fur and Textile Products Labeling Acts. The FTC told a House appropriations subcommittee it needs \$337,500 for its proposed Bureau of Textiles and Furs, and for the entire agency FTC wants \$9,640,000 for the fiscal year starting July 1. FTC said the agency staff has received 70,000 requests for information from the half-million business men affected by the Textile Fiber Products Identification Act.

#### New Celanese Headquarters

Celanese Corp. of America has moved its corporate headquarters and executive offices to 522 Fifth Ave., New York City. Some 500 employees were involved in the move from the old headquarters at 180 Madison Avenue, where Celanese had been located for the past 32 years.

Celanese, a diversified international producer of chemicals, polymers, fibers, plastics and pulp, has taken a 20-year lease on eight floors of the 522 Fifth Avenue building, and has over 200,000 square feet of floor space.

#### Graduates Get Jobs

Depressed economic conditions in the country had little effect on placement of the 1961 graduating class of the Philadelphia College of Textiles and Science, according to the school. Of the 71 graduates, 34 of the "immediately available" 40 have accepted positions in the textile and allied industries. Salaries of the new graduates range between \$4,000 and \$7,200, with a mean salary of \$6,000.

# U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarn, staple and tow as reported by the producers in July 1961. All prices are given to change without notice.

## CELLULOSIC YARNS ACETATE

### American Viscose Corp.

Current Prices Effective March 22, 1960

#### Bright and Dull

Denier & Filaments	Intermediate Twist**			Spinning Twist		
	Cones	Twister T-Tubes	Warps	Cones & C-Tubes	Warps	
40/11					\$1.14	
45/14					1.03	
55/14-20	.99	.97	1.00	.93	.87*	
75/18					.90	
75/20	.95	.93	.96	.89	.90	
100/28	.91	.89	.92	.85	.86	
120/32	.82	.80	.83	.76	.77	
150/36					.70	
150/41	.74	.73	.75	.69	.70	
200/54	.70	.69	.71	.66	.67	
240/80				.65	.66	
300/80	.66	.65	.67	.62	.63	

\* Tricot Spools Only.

\*\* Standard Twist 2 $\frac{1}{2}$  Additional.

Terms: Net 30 Days.

### Celanece Fibers Company

Current Prices Effective March 22, 1960

#### Acetate Filament Yarn Prices

#### Bright and Dull

Denier and Filaments	Intermediate Twist			Spinning Twist		
	4 & 6-Lb. Cones	Beams	4-Pound Cheeses	Cones	Beams	O Twist Tubes
45/13	\$1.12	\$1.13			\$1.03*	
55/15	.99	1.00			.87*	.82
75/20	.95	.96		.89	.90	.86
75/50	.97	.98		.85	.92	
100/26-40	.91	.92		.85	.86	
120/40	.82	.83		.76	.77	
150/40	.74	.75	.74	.69	.70	
200/52	.70	.71		.66	.67	
240/80	.68			.64		
300/80	.66	.67		.62	.63	
450/120	.65	.67		.62	.63	
600/160	.65	.66				
900/80-240	.63	.64				

\* Tricot beams only. This item with Permachem—\$.05 additional.

3T/10 electrical finish available at no premium.

3 to 5 turns on Cones or Beams ..... \$.02 Additional

Over 5 turns—55 denier ..... \$.06 Additional per Turn

Over 5 turns—75 denier ..... \$.04 Additional per Turn

Over 5 turns—100 denier ..... \$.03 Additional per Turn

Over 5 turns—150 denier & coarser ..... \$.02 Additional per Turn

150 Denier 12-Tw Tubes ..... \$.73

3 Pound Cheeses ..... \$.01 Less than 4-lb. Cheeses

2-BU and 4-BU Tubes ..... Same price at 4 & 6-lb. cones

Premium for Serving Tubes ..... \$.05

Part Cone Premiums: 2-lbs. .... \$1.10

1-lb. .... \$1.00

Under 1-lb. .... \$.20

#### Celaperm Filament Yarn Prices

Denier and Filaments	Intermediate Twist			Spinning Twist		
	4 & 6-Lb. Cones	Beams		Cones	Beams	
55/15	\$1.37	\$1.38		\$1.31	\$1.32	
75/20	1.34	1.35		1.28	1.29	
100/26	1.28	1.29		1.22	1.23	
120/40	1.19	1.20		1.13	1.14	
150/40	1.11	1.12		1.06	1.07	
200/104	1.05	1.06		1.01	1.02	
300/80	1.01	1.02		.97	.98	
450/120	.99	1.00		.95	.96	
600/160	.97	.98				
900/240	.94					

\* 150/2Z/40 available in all colors. Contact our District Sales Representative for current availability of colors in other denier.

Over 5 turns—55 denier ..... \$.06 Additional per Turn

Over 5 turns—75 denier ..... \$.04 Additional per Turn

Over 5 turns—100 denier ..... \$.03 Additional per Turn

Over 5 turns—150 denier & coarser ..... \$.02 Additional per Turn

#### Celaperm Black Yarn Prices

Effective March 22, 1960

Denier and Filaments	Intermediate Twist			Spinning Twist		
	4 & 6-Lb. Cones	Beams		Cones	Beams	
55/15	\$1.17	\$1.18		\$1.11	\$1.12	
75/20	1.14	1.15		1.08	1.09	
100/26	1.08	1.09		1.02	1.03	
120/40	.99	1.00		.93	.94	
150/40	.91	.92		.86	.87	
200/52	.85	.86		.81	.82	
300/80	.81	.82		.77	.78	
450/120	.79	.80		.75	.76	
600/160	.77	.78				
900/80	.74					
3 to 5 turns on Cones or Beams						\$.02 Additional
Over 5 turns—55 denier						\$.06 Additional per Turn
Over 5 turns—75 denier						\$.04 Additional per Turn
Over 5 turns—100 denier						\$.03 Additional per Turn
Over 5 turns—150 denier						\$.02 Additional per Turn

Over 5 turns—100 denier ..... \$.03 Additional per Turn  
Over 5 turns—150 denier & coarser ..... \$.02 Additional per Turn  
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

#### "Acele" Acetate Bright and Dull

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	2 & 4 Lb. Tw. Tubes	4 & 6 Lb. Tw. Tubes	Cones	Beams
45-13	\$ .94	\$1.02						
55-18	.82	.86						\$1.00
55-24	.82	.86					.99	1.00
75-24	.86	.89					.95	.96
75-50				.92				.98
100-32	.82	.85	.85	.86		.89	.91	.92
120-50	.73	.76					.82	.83
150-40	.66	.60	.69	.70			.74	.75
200-60	.65		.66				.70	
240-80		.65	.65				.69	
300-80	.60	.62	.62	.63			.66	
450-120	.61		.62				.65	
600-160						.65***		
900-44								
900-240	.61**						.63	
1800-88						.61***		.62***
2700-132						.61***		
3000-210						.61		

1800 Type 20 only.

(B) 1 lb. % Tubes—add \$.02 to 2 & 4 lb. % Tube Price.

\*\* Bright only 2" Tubes.

\*\*\* Type 20 only.

#### Color-Sealed

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	Cones	Beams	Cones	Beams
75-24	\$1.18	\$1.28			\$1.29	\$1.34	\$1.35	\$1.35
100-32	1.14				1.23	1.28	1.29	1.29
150-40	1.03	1.06	\$1.06		1.07	1.11	1.12	1.12
300-80		.97				1.01	1.02	1.02

#### Black

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	4 & 6 Lb. Tw. Tubes	Cones	Beams	Beams
75-24	\$ .98	\$1.08			\$1.09	\$1.14	\$1.15	\$1.15
100-32	.94				1.03	1.08	1.09	1.09
150-40	.83	.86	.86		.87	.91	.92	.92
300-80	.75	.77				.81	.82	.82
900-44						.74*	.74	

\* 2 & 4 lb. % tbs. is same price as 4 & 6 Tw. Tubes.

#### Specialty Yarns Cycloset for Tricot

	Tubes		Beams	
	Regular	Intermediate	Low Twist	Zero Twist
40-13 Natural	\$1.07			
55-18/24 Natural	.83			
75-24 Natural	.87			
100-32 Natural	.83			
40-13 Black	1.22			
55-18 Black	1.08			

Terms: Net 30 days. Subject to change without notice.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

\* Dupont's Trademark for its acetate yarn.

### Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

#### "Estron" Yarn, Bright and Dull — White

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist		Zero Twist		Tricot Beams	
	Cones	Beams	Cones	Beams	Cones	Beams	Tubes	Spun Twist	Zero Twist	
55/13	\$1.01	\$1.02	\$0.99	\$1.00	\$0.93	\$0.94	\$0.82	\$0.87	\$0.86	
75/19	.97	.98	.95	.96	.89	.90		.90		
75/49	.99	1.00	.97	.98						
100/25	.93	.94	.91	.92	.85	.86				
120/30	.84	.85	.82	.83	.76	.77				
150/38	.76	.77	.74	.75	.69	.70	.66			
200/50	.72	.73	.70	.71	.66	.67				
300/75	.68	.69	.66	.67	.62	.63	.60			
450/114	.68	.69	.66	.67	.62	.63				
600/156	.67	.68	.65	.66	.62	.63				
900/230	.65	.66	.63	.64				.61		
Heavier								.56		

Current

### "Chromspun"—Standard Colors (Except Black)

Denier & Filament	Regular Twist Cones	Beams	Intermediate Twist Cones	Beams	Low Twist Cones	Beams
55/13	\$1.34	\$1.35	\$1.32	\$1.33	\$1.26	\$1.27
75/19	1.31	1.32	1.29	1.30	1.23	1.24
100/25	1.25	1.26	1.23	1.24	1.17	1.18
150/38	.....	.....	1.06	1.07	1.01	1.02
300/75	.....	.....	.96	.97	.92	.93
450/114	.....	.....	.94	.95	.90	.91
900/230	.....	.....	.89	.90	.....	.....

Current Prices

### "Chromspun"—Black

Denier & Filament	Regular Twist Cones	Beams	Intermediate Twist Cones	Beams	Low Twist Cones	Beams
55/13	\$1.19	\$1.17	\$1.18	\$1.18	\$1.12	\$1.12
75/19	1.16	1.14	1.15	1.15	1.09	1.09
100/25	1.10	1.08	1.09	1.09	1.03	1.03
150/38	.93	.91	.92	.92	.87	.87
200/50	.87	.85	.86	.86	.82	.82
300/75	.83	.81	.82	.82	.78	.78
450/114	.81	.79	.80	.80	.76	.76
900/230	.76	.74	.75	.75	.....	.....

Prices are subject to change without notice.

Prices on special items quoted on request.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

\* "Estron" is a trade-mark of the Eastman Kodak Company.

\* Chromspun is a trade-mark of the Eastman Kodak Company.

## RAYON

### American Bemberg

Current Prices

#### Regular Production Reel Spun Yarn

Den./Fil.	No Twist Tubes	Twisted Skeins & Cones	8 1/2 Turns	12 Turns	15 Turns	18 Turns
40/30	\$1.49	\$1.95	.....	.....	.....	\$2.08
50/36	1.29	1.55	.....	.....	.....	1.85
65/45	1.22	1.38	.....	\$1.61	.....	1.66
75/60**	1.11	1.25	.....	1.48	\$1.53	1.56
100/74**	1.02	1.15	.....	1.40	1.45	1.51
125/90	1.01	1.12	\$1.16	1.37	.....	.....
150/120	.99	1.08	1.18	1.33	.....	.....
300/225	.....	1.01	.....	1.14	.....	.....
900/744	.....	.91	.....	.....	.....	.....
1800/744	.....	.91	.....	.....	.....	.....

\* Includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.

\*\* Spun Dyed Cupracolor Black 15¢ per lb. extra.

#### "4" HH Spool Spun Yarn

Den./Fil.	No Twist Tubes	Twisted Beams	5 Turn Cones	5 Turn Beams	12 Turn Cones	15 Turn Cones
40/30	\$1.35	\$1.35	.....	.....	.....	.....
50/36	1.05	1.05	.....	.....	.....	.....
65/45	1.13	.....	.....	.....	\$1.50	.....
75/45*	1.04	.....	\$1.15	\$1.15	1.38	\$1.46
100/60*	.96	.....	1.10	1.10	1.30	1.38
125/90	.91	.....	1.06	1.06	.....	.....
150/90*	.83	.....	.87	.87	1.21	1.30
150/120	.87	.....	.99	.99	.....	.....

\* Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

#### "44" HH "Parfe" Spool Spun Yarn

Den./Fil.	No Twist Cones	5 Turn Cones	5 Turn Beams	12 Turn Cones	15 Turn Cones
50/36	\$1.60	\$1.85	\$1.85	.....	.....
75/45	1.48	1.58	1.58	\$1.78	\$1.88
100/60	1.38	1.48	1.48	1.68	1.78
150/90	1.21	1.28	1.28	1.63	1.73
300/120	1.21	1.28	.....	.....	.....

#### Nub-Lite (Short Nubbi)

Code	Den./Fil.	2 1/2 Turn Natural Cones	2 1/2 Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
1515	160/90	.....	.....	\$1.50	\$1.40
1519**	155/90	.....	.....	1.50	1.40
2008**	200/120	.....	.....	1.11	1.01
3002	315/180	\$1.15	\$1.05	.....	.....
4011	410/224	1.15	1.05	.....	.....
6001	600/360	1.13	1.03	.....	.....
8001	860/450	1.13	1.03	.....	.....

\* Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.

\*\* Code 1519 can be run in warp or filling.

\*\* Available in 10 turns at 5¢ extra per pound.

#### CUPIONI Type B

Code	Den./Fil.	2 1/2 Turn Cones
9650	70/45	\$1.69
9660	100/60	1.53
1545	150/90	1.35
9730	285/135	1.15
9792	450/225	1.15
9819	600/372	1.12
9837	940/372	1.02

\* Spun Dyed Cupracolor is spun 150, 285, and 940 deniers at 35¢ per pound extra. Cupracolor Black comes in all deniers.

#### STRATA SLUB

Code	Den./Fil.	Twisted Cones	Price
9747	275/225	3 1/2 Turns	\$1.25
9798	450/372	2 1/2 Turns	1.15
9823	600/372	2 1/2 Turns	1.10
9847	960/372	2 1/2 Turns	1.02
9885	1290/372	1 1/2 Turns	1.00
9934	2680/744	1 1/2 Turns	1.00

\* Spun Dyed Cupracolor is spun in 600 and 960 deniers at 35¢ per pound extra.

## FLAIKONA

Code	Den./Fil.	Twisted Cones	Price
9699	150/148	2 1/2 Turns	\$1.35
9769	300/224	2 1/2 Turns	1.25
9782	450/270	2 1/2 Turns	1.05
9809	600/360	2 1/2 Turns	1.05
9840	900/450	2 1/2 Turns	1.00
9924	2000/744	2 1/2 Turns	.95

## TUSSON

Code	Den./Fil.	2 1/2 Turn Cones	3 1/2 Turn Cones
9644	70/45	.....	\$1.69
9668	100/60	.....	1.58
9678	150/90	\$1.35	.....
9745	285/135	1.20	.....
9783	450/225	.85	.....
9821	600/372	.80	.....
9828	940/372	.75	.....

Spun Dyed Cupracolors 30¢ extra per lb.

Available in 450 denier only.

Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice.

## American Enka Corp.

Current Prices

Effective February 29, 1960

Standard Quality Yarns

### NATURAL

Den./Fil.	Luster	Turns	Cones	Beams	Long	Short	Cakes	Knitting Cones
50/18	E	5	S	.....	.....	.....	.....	1.63
50/20	B	4	S&Z	.....	.....	.....	1.52	1.64
75/10	B	3	S	.....	.....	.....	.....	1.02
75/18	E	4	S	.....	.....	.....	.....	1.14
75/30	B	2.5, 4	S&Z	1.14	1.14	1.32	1.41	1.02
75/30	B	8	S	1.24	1.24	1.49	1.59	1.12
75/45	P.E	2.5, 4, S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/60	B.P	3, 4	Z	1.16	.....	.....	.....	1.04
100/14	B	3	S&Z	.....	.....	1.15	1.23	.90
100/40	B.E	12	S&Z	.....	.....	.....	.....	1.29
100/40	B.P.E	4.5	S&Z	.98	.....	.....	.....	.90
100/40	B	6	S	1.17	.....	1.34	1.44	1.09
100/40	B.P	2.5, 4	S&Z	.98	.98	1.15	1.23	.90
100/60	B	4	S&Z	.....	.....	.....	.....	.90
100/60	E	2.5	S	1.00	1.00	.....	.....	.92
125/40	E	3	Z	.....	.....	.....	.....	.87
125/50	B.P	3	S	.96	.96	.....	.....	.90
150/40	B.E	0	.....	.745	.....	.....	.....	.....
150/40	B.P.E	2.1, 3	S&Z	.82	.82	.96	1.03	.78
150/40	B.E	5	S&Z	.90	.90	1.15	1.25	.86
150/40	B.E	8	S&Z	.95	.95	1.20	1.30	.91
150/60	B	3.0	S	.82	.82	.....	.....	.....
150/90	E	2.1	S&Z	.83	.83	.....	.....	.79
200/40	B	2.1	S	.81	.81	.94	1.01	.77
200/40	P	3	Z	.....	.....	.94	1.01	.77
250/60	P.E	2.4	Z	.....	.....	.93	1.00	.77
300/30	E	3	S	.81	.85	.....	.....	.....
300/40	B	3.2	Z	.73	.73	.....	.....	.....
300/50	B.E	3	S	.73	.76	.....	.....	.....
300/60, 120	B.P.E	2.1	S&Z	.73	.73	.82	.89	.71
300/60	B	3.5	S	.73	.73	.82	.89	.71
300/60	B	6	S	.86	.86	.....	.....	.84
300/120H.T.	B	2.5	S	.75	.75	.....	.....	.73
450/60	B	3	S	.69	.71	.....	.....	.67
450/80	B.E	3	S	.69	.71	.78	.85	.67
600/80	B.E	3	S	.73	.75	.....	.....	.....
600/120	B.E	3	S	.69	.71	.78	.85	.67
900/50	B	3	S	.69	.71	.....	.....	.67
900/120	B	3.4	S	.69	.71	.78	.85	.67
900/120H.T.	B	3.4	S	.71	.71	.....	.....	.69

B = Brigo

P = Perigo (Semi-Dull)

E = Englo (Dull)

H.T. = High Tenacity

### Jetspun® (Colored Yarns)

Den./Fil.	Tenacity	Turns	Cones	Beams	Colors
100/40	Regular	2.5S	\$1.35	\$1.35	All
150/40	Regular	2.1S	1.17	1.17	All
200/40	Regular	8.0S	1.28	1.28	All
300/120	Regular	2.1S	1.09	1.09	All
450/80	Regular	3.0S	1.05	1.05	All
600/80	Regular	3.4S	1.04	1.04	All
900/40	High	3.4S	1.11	1.11	All
900/120	High	3.4S	1.06	1.06	All

® Registered Trade Mark for American Enka Solution-dyed Rayon Yarn.

### Skyloft® (Lofted Rayon Filament Yarns)

#### Natural and Jetspun®

Denier	Denier per Filament	Twist	Natural Cones	Black Cones	Other Colors
5300	15	3.0S&Z	\$1.65	\$1.75	\$1.82

Registered Trademark for American Enka Texturized yarn.

## American Viscose Corp.

Effective October 13, 1959

### Graded Yarns

Denier	Filament	Type	Regular Turns	Short Skeins	Long Skeins	Cones Tubes	Beams Spools	Cakes
75	10-30	Bright	\$1.41	\$1.32	\$1.14	\$1.14	\$1.02	.....
75	30	Dull	.....	.....	1.14	1.14	1.02	.....
100	14-40	Bright	1.23	1.15	.98	.98	.90	.....



## Personnel Notes

**Theodor V. Shumeyko** has been promoted to manager, public relations, The Chemstrand Corp.

**C. Richard Youngdahl** has been elected a director of James Talcott, Inc. **John A. Kingston** has been made assistant vice president.

**C. R. Stock** has been appointed manager of the fibers application laboratory of the Fibers Division of American Cyanamid Co.

**Dr. Charles E. McGinn** has been named assistant director of research for Solvay Process Division, Allied Chemical Corp.



W. J. Fullerton

**W. J. Fullerton** has joined Hartford Fibres Co. division of Bigelow-Sanford, Inc., as assistant to the vice president in charge of the Hartford division. He will have complete charge of all marketing, merchandising, sales promotion and advertising activities for Zantrel Polynosic fiber.

**L. H. Stokes** has been named general field sales manager of Sonoco Products Co. Other sales appointments include: **C. H. Campbell, Jr.**, assistant general field sales manager; **Robert Blackwell**, divisional sales manager; **J. A. Gainey**, Atlanta resident sales manager, and **R. E. Tuck** as assistant Atlanta resident sales manager.

**J. B. Boyd** has been promoted to director of purchases and **P. M. Stanley** to purchasing agent of the Sonoco Products Co.

**Horace D. Penn** has been named a sales representative in the North Carolina and Virginia area for Standard Chemical Products, Inc.

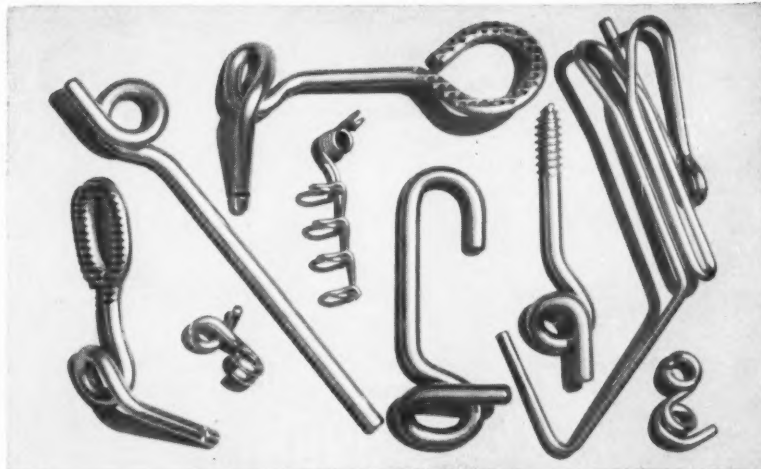
**John A. Amory** has joined the marketing staff of Leesona Corp. as a senior market analyst.

(Continued on page 57)

## WHEN IT COMES TO PROTECTION...



## HARD CHROMIUM PLATING



The Leading Name  
In Textile Hard  
Chromium Plating.

Chromium plating, as does everything else, comes in various qualities, so you owe it to yourself to buy the best protection possible. Our customers expect the best Hard Chromium Plating when they buy Walhard.

During 26 years of successful experience, we have proven that fast, efficient service combined with Hard Chromium Plating "know how" mean "dollars in their pockets."

Be sure you are getting quality Hard Chromium Plating — both satin and polished finish — It costs no more and lasts longer.

**WALTON and LONSBURY**

79 NORTH AVENUE

ATTLEBORO, MASSACHUSETTS

100 60	Dull			1.00	1.00	.92
150 24-40	Bright	1.03	.96	.82	.82	.78
150 40	Semi-Dull	1.03	.96	.82	.82	.78
150 40	Dull			.82	.82	.78
150 90	Dull			.83		.79
200 10-44	Bright	1.01	.94	.81	.81	.77
250 60	Semi-Dull & Dull	1.00	.93	.80	.80	.77
300 15	Bright		.85	.78	.78	
300 30	Dull Flat Filament			.85		
300 44	Bright & Dull	.89	.82	.73	.73	.71
300 234	Dull			.83		.81
450 60-100	Bright	.78	.69	.71	.67	
600 100	Bright & Dull	.78	.69	.71	.67	
900 50-100-150	Bright	.78	.69	.71	.67	
1200 75	Bright	.78	.69	.71		
2700 150	Bright	.78	.69	.71		

### Extra Turns Per Inch

150 40	Bright 6-Turns	\$1.25	\$1.15	\$ .90	\$ .90	\$ .88
200 44	Bright 6-Turns		1.05	.96	.96	
300 15	Bright 5-Turns			.86	.86	
300 44	Bright 4.3-Turns			.81		.79
300 44	Bright 6-Turns	.97	.90	.86	.86	.84
300 120	Rayflex 6-Turns			.93	.93	
600 30	Bright 5-Turns		.86	.82	.82	.80

### Rayflex Yarns

150 40-60	Rayflex	\$ .85	\$ .85	\$ .81
200 75	Rayflex	.84	.84	.80
300 60-120	Rayflex	.75	.75	.73
450 120	Rayflex	.71	.71	.69
600 234	Rayflex	.71	.71	.69
900 350	Rayflex	.80	.71	.69

### Spun Dyed Yarns

Denier	Type	Cones/Tubes Beams/Spools
75	Regular Strength	\$1.71
100	Regular Strength	1.35
150	Regular Strength	1.17
200	Regular Strength	1.14
300	Regular Strength	1.09
450	Regular Strength	1.05
600	Regular Strength	1.05
900	Regular Strength	1.05
300	High Strength	1.11
450	High Strength	1.06
900	High Strength	1.06

### Avicron Yarns

Denier	Filament	Cones/Tubes Beams/Spools
1800	100-200	\$ .61
2700	150-300-980	.58
2700	980	.61

### Viscose Filament Yarns

The following material deposit charges are required:		
Metal Section Beams		\$170.00 each
Metal Section Beam Racks		75.00 each
Metal Tricot Spools—14" flange		30.00 each
21" flange		60.00 each
32" flange		150.00 each
Metal Tricot Spool Racks		135.00 each
14" flange		100.00 each
21" flange		75.00 each
32" flange		20.00 each
Wooden Tricot Spool Crates		.05 each
Cloth Cake Covers		.05 each

Same to be credited upon return in good condition—freight collect.

### Celanese Fibers Company

Effective October 12, 1960

#### Viscose Rayon Filament Yarn Prices—Bright and Dull

Denier/Fil/Twist	Beams	Cones	Cakes
75/30/2Z	\$1.11		
75/30/3	1.11	\$1.10	\$ .98
100/40/2Z	.97		
100/40/3	.97	.96	.88
100/40/5		1.02	.95
100/60/2Z	NS	.96	
100/60/3		.98	.90
125/40/2Z		.95	
125/40/3		.95	.87
150/40/0	NS	.94	
150/40/2Z		.74 1/2	
150/40/3		.79 1/2	.76
150/40/5		.90	.86
150/40/8		.95	.91
150/40/10		.98	.94
150/90/0	NS	.77 1/2	
250/60/0	NS	.74	
250/60/3		.80	.77
300/50/0	NS	.70	
300/50/2Z		.72	
300/50/3		.72	.69
450/60/0	NS	.67	
450/60/3		.70	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U. S. A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Effective May 11, 1961

### Bright and Dull

Den.	Fil.	Turns/ Inch Up to	Type	Beams	Cones (A) Tubes	Cakes
40	20	3	Textile "Cordura"		\$1.97	\$1.92
50	20	3	Textile "Cordura"		1.72	1.67
50	35	3	Textile "Cordura"		1.77	
75	30	3		\$1.14	1.14	1.02
100	40	3	Bright	.98	.98	.90
100	60	3	Dull		1.00	.92
125	50	3		.96	.96	.87
150	40	3		.82	.82	.78
150	60	3	Bright	.82	.82	.78
150	90	3	Textile "Cordura"		.875	.845
150	100	3	Dull		.83	
300	50	2.5	Dull		.83	
300	120	3	Textile "Cordura"	.73	.73	.71
450	72	3		.74	.74	.72
600	96	3	Bright	.71	.69	.67
600	240	3	Textile "Cordura"	.72	.70	
900	50	3	Bright	.71	.69	.67
900	144	3	Bright	.71	.69	.67
2700	150	3	Bright	.71	.69	

### Thick and Thin

150	90	3	#7 Bright	1.08
200	80	3	#7 Bright	1.08
450	100	3	#7 Bright	.92
1100	240	3	#60 Bright	1.03
2200	480	3	#60 Bright	.98

### Plush

300	30	3	Dull	.85
-----	----	---	------	-----

(A) 2c/lb. additional for cones less than 3#.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

\* "CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

### Industrial Rayon Co.,—Div. of Midland-Ross

Effective June 15, 1961

### Continuous Process Textile Yarns

Denier	Fila- ment	Turns per In.	Type	Beams	2.8# Cones	4.4# Cones and Tubes
150	40	2.5"S"	Dull	.82	.82	
150	40	2.5"S"	Bright	.82	.82	
200	20	2.5"S"	Bright	.81	.81	
300	44	2.5"S"	Bright	.73	.73	
450	60	2.0"S"	Bright	.69		.69
600	90	1.5"S"	Bright	.69		.69
900	50	2.0"S"	Bright	.69		.69
900	150	2.0"S"	Bright	.69		.69
1100	480	2.0"Z"	Bright-extra strong	.66		.66

Lustre #4 is semi-dull.

Prices are subject to change without notice.

### Strawn Monofilament

Denier	Fila- ment	Turns per In.	Type	4.4# Cones	Spools and Tubes
450	1	0	Bright and Dull	1.00	1.05
1250	1	0	Bright and Dull	1.00	1.05

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.

Prices are subject to change without notice.

### North American Rayon Corp.

Current Prices

Denier/Filament	Twist	Knitting* Cones	No Twist Knitting Cones	Weaving Cones, Velvet Cones, Beams, Tubes**	Untreated Cakes
Normal Strength Yarns — NARCO					
75/30	3.5			1.14	1.02
75/30	7			1.27	
75/30	12			1.35	
75/30	15			1.37	
75/30	20			1.40	
100/40/60	3.5			.98	.90
100/40	12			1.22	
125/25/60	3			.96	.87
125/52	10			1.13	
150/42	0		.74 1/2		
150/42/60	3	.80 1/2		.82	.78
300/75	0		.71		
300/75	3	.73		.73	.71
900/46	2.5	.69		.69	
1800/92	2.5	.69		.69	

\* Oiled Cones \$.01 per pound extra for Graded Yarns only.

\*\* 1 lb. Tubes \$.02 per pound extra for Graded Yarns only.

Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice.

# TIME IS MONEY

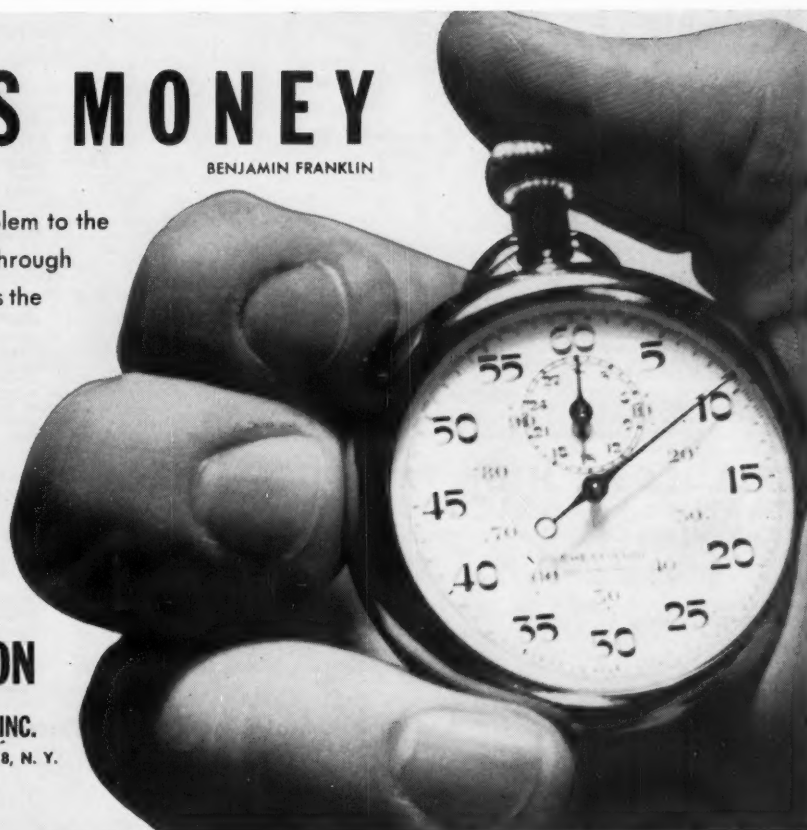
BENJAMIN FRANKLIN

Tight money poses a problem to the manufacturer. Financing through Iselin-Jefferson Financial is the solution. Why not inquire about us?

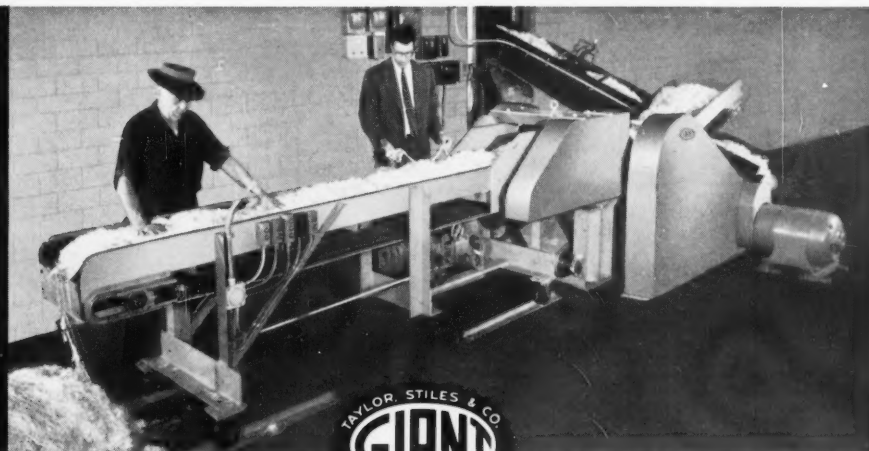


**ISELIN-JEFFERSON  
FINANCIAL COMPANY, INC.**

111 WEST FORTIETH STREET, NEW YORK 18, N. Y.



Use Less Power,  
Improve Product  
Quality with  
**GIANT  
THREAD  
WASTE  
CUTTER**



GIANT Thread Waste Cutters are built to withstand the grueling hours of steady running, the day after day demands for top quality cutting. They are engineered to shear-cut natural and synthetic fibers cleanly with a very wide range of lengths of cut—the length of cut being quickly changeable.

GIANT machines cut synthetics without fusing, keeping the cut below the melting point.

Other features found on GIANT production type cutters are the pivotted arm feed which assists in maintaining uniform feeding and gives relative freedom from jamming; low power consumption; capacities up to 3000 lbs. per hour; easy accessibility to all parts.

There are GIANT Textile Cutters for every cutting need, designed by Taylor-Stiles Engineers working closely with leading garnetters, textile mills and fiber products manufacturers. All GIANT machines are backed with Taylor-Stiles technical assistance and free sample cutting service. Return the coupon or call today for complete information. GIANT Cutters are "giants" for wear and "giants" for production!



Fig. G-145 Frank P. Mita and Co., well known garnetters of Philadelphia, use a No. 417 GIANT Thread Waste Cutter with excellent results.

**TAYLOR, STILES & COMPANY**

RIEGELSVILLE, NEW JERSEY, Phone: WYman 3-7191

INDUSTRIAL CUTTING EQUIPMENT FOR PLASTICS, RUBBER, TEXTILE, PAPER AND OTHER INDUSTRIES; MACHINERY FOR BALE OPENING.

- ☐ I would like more information on your free sample cutting services.  
☐ I would like more information on your thread waste cutters.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

## TRIACETATE

### Celanese Fibers Company

Current Prices

Arnel Yarn Prices

Bright & Dull

Effective August 19, 1958

Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/LTDZ/15	\$ 1.32	\$1.25	\$ .
55/ZZ/15	1.32	1.33	1.16
75/LTDZ/20	1.21	1.22	1.15
75/ZZ/20	1.14	1.15	1.21
100/ZZ/26	.95	.96	
150/ZZ/40	.92	.93	1.25
200/ZZ/40	.87	.88	1.23
300/ZZ/80	.86	.87	
450/ZZ/120	.85	.86	1.21
600/ZZ/160			

3 to 5 Turns on Cones or Beams—\$.02 Additional

Premium for Black Arnel—\$.25 Per Pound

Premium for Navy Arnel—\$.37 Per Pound

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

## CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective February 6, 1961

Industrial Yarn Prices

Prices Subject To Change Without Notice

	Denier/Filament	Beams	Standard Cones
TYREX (ENKA—5000)	1100/720	.57	.595
	1650/1100	.51	.535
	2200/1440	.48	50.5
	3300/2160	.48	50.5
TYREX FABRIC (ENKA—5000)	1100/720	.69	
	1650/1100	.60	
	2200/1440	.57	
	3300/2160	.57	
SUPRENKA M	1230/720	.57	.595
	1600/1100	.53	.555
	1800/1100	.51	.535
	1870/1100	.51	.535
	2200/1440	.48	50.5
	2400/1440	.48	50.5
	3300/2160	.48	50.5
	3650/2160	.48	50.5
SUPRENKA MS	1100/720	.57	.595
	1650/1100	.51	.535
	2200/1440	.48	50.5
	2200/1440 (5.52)	.505	.53
	3300/2160	.48	50.5
SUPRENKA 2000—MECHANICAL AND CHAFER	1100/480	.56	.585
	1230/480	.56	.585
	1650/720	.50	.525
	1820/720	.50	.525
High & Low Elongation	2200/960	.47	49.5
	2400/960	.47	49.5
	3300/2160	.47	49.5
	1130/480 (5.0Z)	.60	.60
SUPRENKA 2000—SEWING YARN	1230/480	.62	.62
	1750/720	.52	.52
	1820/720	.51	.51
ENKA H. MOD.	1100/1100	.67	.67
	1650/1644	.61	.61
	2200/2160	.58	.58
HIGH TENACITY	300/40, 300/120	.75	.75
	900/120	.71	.71
REGULAR TENACITY	100/40	.98	.98

American Viscose Corp.

Effective February 9, 1961

Tyrex\*

Tyrex\* Rayon Tire Yarn

Denier	Filament	Twist	Beams	Cones
1100	980	O	.57	.595
1100	980	Z	.57	.595
1650	1500	O	.51	.535
1650	1500	Z	.51	.535
2200	1500	O	.48	.505
3300	3000	O	.48	.505

Tyrex\* Rayon Tire Fabric

Denier	Filament	Carcass	Top Ply	Breaker
1100	980/2	.69	.69	.69
1650	1500/2	.60	.61	.635

Factor—determined by dividing total ends by picks.

\* Tyrex—Trademark of Tyrex Inc.

Rayon Tire Yarn

Yarn

High Strength

Unslashed

Slashed

Denier	Filament	Twist	Beams	Cones	Beams	Cones
1100	490	O	.56	.585	.56	.585
1150	490	Z	.56	.585	.56	.585
1650	980	Z	.50	.525	.50	.525
1650	980	O	.50	.525	.50	.525
1875	980	Z	.50	.525	.50	.525
2200	980	O	.47	.495	.47	.495

Super "Rayflex"

Type 120	Denier	Filament	Twist	Beams	Cones
1800	1500	O	.535	.535	.535
4400	3000	O	.48	.505	.505

## Chafer Yarn

1100/490 High Strength 5Z Twist .60 .60

Adhesive Dipped Yarn or Cord

.06 PREMIUM

Cord on cones in regular Tire Yarn twists same as fabric prices.

Other twist combinations—prices quoted on request.

Special packages take premiums indicated:

4.0 oz. Wardwell Tubes	.20
10.5 oz. Wardwell Tubes	.10
1.5 lb. Regular Braider Tubes	.06
3.5 lb. Tubes	.045

Single Yarn—Based on cone price.

Plied Yarn—Based on fabric price.

All yarns sold "Not guaranteed for dyeing"

The following deposit charges are made on invoices:

Beams	\$55.00 each
Crates (Metal)	75.00 each
Fabric Shell Rolls	3.50 each

Same to be credited upon return in good condition freight collect.

Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of the Mississippi River, in which event the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.

Price subject to change without notice.

Inferior Yarns—Designated HS-SR .06 Below First Quality Price

Skein Yarn .04 Above First Quality Price

Adding 6 Turns to "O" Twist Yarn .05

"Avisco" Industrial Sewing Thread

Effective March 1, 1961

Denier	Filament	Description	Twist	Package	Price
1100	980	Super "Rayflex" 120	O	9 lb. cone	.64
1100	980	Super "Rayflex" 120	Z	4 lb. cone	.64
1500	980	Super "Rayflex" 120	O	9 lb. cone	.59
1500	980	Super "Rayflex" 120	Z	4 lb. cone	.59
1780	1500	Super "Rayflex" 120	O	9 lb. cone	.55
1780	1500	Super "Rayflex" 120	Z	4 lb. cone	.55

Domestic freight prepaid.

Prices subject to change without notice.

Celanese Fibers Company

Effective December 27, 1955

Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	\$3.00 lb	\$3.35 lb
60/2.5/80	" "	2.40 "	2.75 "
90/2.5/120	" "	2.25 "	2.60 "
120/2.5/160	" "	2.05 "	2.40 "
150/2.5/180	" "	1.95 "	2.30 "
270/2.5/360	" "	1.85 "	2.20 "
300/2.5/360	" "	1.85 "	2.20 "

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices Effective May 11, 1961

"Super Cordura"

Den Fil	Turns/in	Beams	Cones
1100-720	2	.57	.595
1200-720	2	.57	.595
1600-960	2	.51	.535
1650-1100	2	.51	.535
1800-1100	2	.51	.535
2200-1440	2	.48	.505
2400-1440	2	.48	.505

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

\* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Co.,—Div. of Midland-Ross

Effective June 15, 1961

Tyron

High Tenacity Yarns and Cords for Industrial Products

Denier	Filament	Turns per Inch	Cones	Beams
1100	720	3.0 "Z"	.585	.56
1150	720	3.0 "Z"	.585	.56
1650	1100	3.0 "Z"	.525	.50
1700	1100	3.0 "Z"	.525	.50
2200	1440	3.0 "Z"	.495	.47
3300	2200	3.0 "Z"	.495	.47

Treated yarns and cords for mechanical rubber goods—plus \$.06.

Prices for special put-ups quoted on request.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in the continental United States except Alaska.

Tyrex\*

Tyrex\* Rayon Tire Yarn

Denier	Filament	Twist	Cones	Beams
1100	720	Z	.585	.56
1650	1100	Z	.535	.51
2200	1440	Z	.505	.48
3300	2200	Z	.505	.48

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River.

\* Tyrex—Trademark of Tyrex Inc.



(Continued from page 53)

**Robert W. Westmoreland** and **J. D. Carson, Jr.**, have been assigned as sales representatives in the Greensboro, N. C., and Atlanta, Ga., offices, respectively, of Steel Heddle Manufacturing Co.

**Gerard B. Meynell** has been appointed merchandising manager of the Dyes Department of American Cyanamid Co.

**Dr. Donald H. Powers** has been named assistant director of Fabric Research Laboratories, Inc.

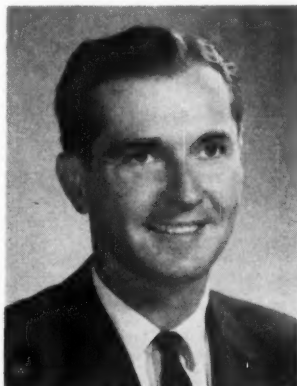
**John E. O'Sullivan** has been elected executive vice president and **James J. Gavin, Jr.**, named vice president and treasurer, of Indian Head Mills, Inc.

**Stanley Brooks** has been named executive vice president of H. W. Butterworth & Sons Co.

Personnel changes in the Fibers Division of Beaunit Fibers Sales Co. include: **Richard I. De Vine**, product manager, tire yarn, industrial uses; **C. R. Blossom**, product manager, viscose rayon textile filament yarn, tow, staple and novelties; **Lon Nave**, product manager, American Bemberg yarns; **Victor Bez**, merchandising manager, all fibers, and **M. Heinzmann**, export manager, all fibers.

**Norman C. Riley** has been elected to the board of directors of National Starch and Chemical Co. (Canada), and **Gerald W. Burgoyne** has been named assistant vice president.

**M. Ray Harden** has been named manager of Saco-Lowell Shops' Greensboro, N. C., office, and **J. M. Sopousek** has been appointed assistant to the works manager at the Sanford, N. C., Gear and Machine Division.



Fred W. Langdon

**Fred W. Langdon** has joined Riegel Textile Corp. as product development manager of the Johnston Division.

**Jo Chasin** has been appointed director of advertising for Beaunit Mills. He will also direct the company's Fibers Division.

**R. W. Breidenbach** has joined Turbo Machine Co. as a sales engineer.

**John R. Longenecker** has been appointed advertising manager for the Textile Machinery Division of Warner & Swasey Co.


**Dr. W. Donald Thompson** has been appointed manager of research and development for Hercules Powder Co.'s Fiber Development Department.

**Benjamin J. Bornstein** has been appointed director of plant operations for Standish Mills and Fairfax Mills of the Hirsch Werner Corp.


**Lewis A. Lapham** and **George F. Ferris** have been elected directors of Celanese Corp. of America.

## Obituary

H. Leslie Garth, of Garth Manufacturing Co., died recently in Little Falls, N. J., after a prolonged illness. With J. L. Lohrke, Mr. Garth was instrumental in developing the Perlok System and the machine for utilizing this process, which was later perfected as the Turbo Stapler.



**“because there  
is no short cut  
to experience”**




**Malina**  
COMPANY


*natural yarns*

**RAYON • NYLON • ACETATE  
METALLIC YARNS**

Stretch Yarns • Thrown Yarns

YOU CAN DEPEND ON MALINA'S 40 years of experience for the type of yarn best suited for your end use. Delivered from stock, when wanted... on time, everytime.





**Atlantic**  
YARN CORPORATION

*yarn dyeing*

**CAKES • PACKAGES • SKEINS**

Rayon • Nylon • Acetate  
Stretch Yarns • Thrown Yarns

YOU CAN DEPEND ON ATLANTIC'S 40 years of experience for quality yarn dyeing! Our facilities for nylon package dyeing and cake dyeing...winding, tubing and throwing are unexcelled.

MAIN OFFICE: 125 West 41st Street, New York 36, N. Y., LOngacre 3-4200

PLANT: 86 Cray Street, Providence 1, R. I.

## North American Rayon Corporation

### Current Prices

Super Super High Strength Continuous Yarn Type 710	Cones	Beams
1100/720	1.6Z	.57
1650/720/1100	2.0Z	.51
Tire Cord Fabrics		
Super Super High Strength Type 710		Rolls
1100/720		.69
1650/720		.60

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

Prices are subject to change without notice.

## CELLULOSIC STAPLE & TOW ACETATE

### Celanese Fibers Company Effective March 2, 1959

#### Staple

(Most Deniers Available in Bright or Dull Luster)

Celanese Acetate Staple	
3, 5.5 & 8 Denier (Regular Crimp, Type HC, Type D)	\$ .36
2, 12 & 17 Denier (Regular Crimp, Type HC, Type D)	.37
35 Denier	.38
50 Denier	.40
Type F—5.5 & 8 Denier	.35
Type F—12 & 17 Denier	.36
Type K—(Available under Celanese License Agreement)	.39
½" to ¾" length (All Deniers)	.03 (Premium)
35 Denier Flat Filament Acetate	.40
Non-Textile Acetate Fibers	.29*

#### Tow (Celatow)

3, 5.5 & 8 Denier	\$ .37
2, 12 & 17 Denier	.38
35 Denier	.40
35 Denier Flat Filament Acetate Tow	.42
50 Denier	.42

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

No transportation allowed (F.O.B. shipping point.)

Note: Prices on unlisted items can be obtained upon request. Orders are subject to conditions of sale appearing on our acknowledgments of orders.

## RAYON

### American Viscose Corp. Current Prices Rayon Staple

Regular	Bright and Dull \$
"Viscose 22"	.28
1.25 Denier	.31
All Other Deniers	.28
Hi-Crimp	.28
Bleached Crimp	
1.5, 3.0 Denier	.315
Smooth	
8.0 & 15.0 Denier Smooth	.30
22.0 Denier	.32
Bleached	.33
Extra Strength	
0.75 Denier	.40
1.0 Denier	.35
XL	
1.0 Denier	.40
1.5, 3.0 Denier	.37
XLII	.34
Fiber 40	
1.0 Denier	.43
1.5 Denier	.40

#### Spun Dyed Black Staple

1.5, 3.0, 5.5 Denier	.35
15.0 Denier crimped	.38

Prices of other colors on request.

#### Tow

1.5, 3.0, 5.5 Denier	.35
9.0 Denier	.37
15.0, 20.0 Denier	.38
Color spun black tow	.42

### American Enka Corp.

Current Prices Effective April 1, 1960

#### Rayon Staple Regular Crimp

1.5 and 3 denier	Brt. \$	Dull \$
	.28	.28
High Crimp		
3.0 denier	.28	.28
4.5 denier	.28	.28
6.5 denier	.28	.28
8 denier	.28	.28
15 denier	.28	.28

## Celanese Fibers Company

Effective May 1, 1959

### Rayon Tow

1.5, 3, 5.5 D.P.F.	Bright & Dull
Total denier 200,000	.35
8 D.P.F.	.37

Total denier 207,000

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

### Courtaulds (Alabama) Inc.

#### Rayon Staple

Regular Rayon Staple Fiber	Bright \$28	Dull \$28
Crimped Rayon Staple		
High Crimped Rayon Staple Fiber	.28	.28
Coloray® Solution Dyed Rayon Staple		

#### Color

Color	Price per lb.
Black	\$ .35
Oyster	.36
Silver Grey	.41
Mocha	.41
Tan	.41
Medium Brown	.41
Pumpkin	.41
Aqua	.42
Rose	.42
Dawn Pink	.42
Ecu	.42
Dark Brown	.42
Gold	.45
Lilac	.45
Slate Grey	.45
Sulphur	.46
Nugget	.46
Light Blue	.46
Crystal Blue	.47
Apple Green	.47
Sage	.47
Peacock Blue	.48
Medium Blue	.50
Indian Yellow	.51
Dark Blue	.51
Hunter Green	.51
Turquoise	.52
Malachite Green	.53
Red	.58

In addition to the above, Black is also available in:

1½ den. 1½"	5½ den. 3"
3 den. 1½"	5½ den. 6"
3 den. 1-9/16"	

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

#### Corval® Cross Linked Rayon

Man-made, cross-linked, regular or crimped cellulose staple, semi-dull and dull \$ .37 per lb.

#### Topel® Cross-Linked Rayon

Man-made, cross-linked, cellulosic staple, semi-dull and dull \$ .37 per lb

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

### The Hartford Fibres Co.

Div. Bigelow-Sanford, Inc.

#### Rayon Staple

Effective October 20, 1960

Regular	1.5 & 3.0 denier Bright & Dull, 1-9/16", 2"	.28
White (Crimped)		
8 denier 3" Bright	.28	
15 denier 3" Bright	.28	
15 denier 3" Dull	.28	

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	.39	.39	
Sandalwood	.39	.39	
Nutria	.39	.39	
Sea Green	.39	.39	
Mint Green	.39	.39	
Champagne	.39	.39	
Midnight Black	.39	.39	.39
Gold	.39	.39	
Turquoise	.39	.39	
Melon	.39	.39	
Capri Blue	.39	.39	
Charcoal Grey	.39	.39	
Coco	.39	.39	
Sable	.39	.39	.39
Tangerine	.59	.59	.59
Chinese Red	.59	.59	.59
Larkspur Blue	.39	.39	
Royal Blue	.59	.59	.59
Lemon Peel	.48	.48	
Kelly Green	.45	.45	
Bitter Green	.59	.59	.59
Brazil		.39	
Redwood			.39
Frost Green		.39	
Mist Grey		.39	
Medium Brown		.39	
Dark Brown			.39
Woodtone		.39	

Antique Gold .....	.39	....
Light Turquoise .....	.39	....
Hunter Green .....	.39	....

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

### "Zantrel Polynosic" Rayon

Effective August 14, 1959

Man-made, cellulosic staple.

Semi-Bright, 1 denier, 1 1/16"	\$ .45	per lb.
1 1/2 denier, 1 1/4" and 1 9/16"	.42	per lb.
3 denier, 1 9/16" and 2"	.42	per lb.

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

### North American Rayon Corporation

Current Prices

#### Rayon Staple

Super High Tenacity	Bright
No. 1, 1.5 & 2.3 deniers	.40
No. 2 (Freshrun)	.40
1, 1.5 & 3 deniers	.40

#### Rayon Tow

Tow Yarns for Tow Breaking	Bright No Twist Tow Tubes
4400/2934	\$ .45
6000/2934	.45
Tow Yarns for Ribbon	Bright No Twist Tubes
1100/480/960	.60
1650/720/1100	.56
1800/720/960	.54
2000/1466	.52
2200/960	.52
3000/960/1466/2934	.47 1/2
3300/1466/2934	.47 1/2
4400/2000/2934	.47 1/2
6000/2934	.47 1/2
6600/2000/2934	.47 1/2

"Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

### TRIACETATE

#### Celanese Fibers Company

Current Prices Effective June 7, 1957

(Most Deniers Available in Bright or Dull Luster)

#### \*Arnel Staple and Tow

Arnel Triacetate Staple	Bright & Dull
2.5 Individual Denier	\$ .55
5.0 Individual Denier	.55
Arnel Triacetate Tow	
2.5 Individual Denier	\$ .60
114,000 Total Denier	
5.0 Individual Denier	.60
90,000 Total Denier or	
180,000 Total Denier	

Packaged on Ball Warps

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

\* Registered Trademark of Celanese Corp. of America.

### NON CELLULOSIC YARN

#### Allied Chemical Corporation

##### Caprolan®

Current Yarn Prices: Effective May 1, 1960

Denier	Fila-ment	Turn/In.	Twist	Type**	Package	1st Grade Price/Lb.
140	16	1 1/2	Z	B	Cones*	\$1.60
140	16	1 1/2	Z	B	Beams	1.65
200	16	1 1/2	Z	B	Cones*	1.49
200	16	1 1/2	Z	B	Beams	1.54
200	32	3/4	Z	B	Bobbins	1.49
200	32	3/4	Z	B	Beams	1.54
210	32	1	Z	HB	Bobbins	1.49
260	16	1	Z	HB	Bobbins	1.49
420	64	1/2	Z	HBT	Bobbins	1.39
420	64	1/2	Z	HBT	Beams	1.44
520	32	1	Z	B	Bobbins	1.39
520	32	1	Z	B	Beams	1.44
840	136	1/2	Z	HBT	Al. Tubes	0.94
840	136	1/2	Z	HBT	Beams	0.92
1680	272	1/4	Z	HBT	Al. Tubes	0.94
1680	272	1/4	Z	HBT	Beams	0.92
1050	56	1/2	Z	B	Al. Tubes	1.15
2100	112	1/2	Z	B	Al. Tubes	1.11
4200	224	0	O	B	Paper Tubes*	1.10
2100	408	0	O	HB	Paper Tubes*	0.97
2500	408	0	O	HB	Paper Tubes*	0.97
3360	544	0	O	HB	Paper Tubes*	0.96
4200	680	0	O	HB	Paper Tubes*	0.96
5000	816	0	O	HB	Paper Tubes*	0.96
5800	952	0	O	HB	Paper Tubes*	0.96
7500	1224	0	O	HB	Paper Tubes*	0.95
10000	1632	0	O	HB	Paper Tubes*	0.95
15000	2448	0	O	HB	Paper Tubes*	0.95

Terms—Net 30 days.

Price subject to change without notice.

Bobbins are invoiced at 45¢ ea.

Aluminum Tubes are invoiced at 40¢ ea.

Beams are invoiced at \$220.00.

Cradles for beams are invoiced at \$53.00.

\* Paper Tubes and Cones non-returnable, no charge.

\*\* Type is used to describe luster and tenacity.

All prices quoted F.O.B. Shipping Point.

Minimum transportation charges allowed and prepaid in Continental United States, excluding Alaska.

### American Enka Corporation

Enka Nylon Prices

Effective March 21, 1961

Denier/Mono Filament	Luster	Twist	Pack- age	Stand- ard	Sub- standard
15/1	SD or D	0.5Z	Pirns	3.89	3.69
15/1	SD or D	0.5Z	Spools	4.00	
20/1	SD	0.5Z	Pirns	3.53	3.30
20/6	SD	0.5Z	Pirns	2.91	2.61
20/6	SD	0.5Z	Spools	3.02	
20/6	Dull	0.5Z	Pirns	2.96	2.61
20/6	Dull	0.5Z	Spools	3.07	
30/1	SD	0.5Z	Pirns	4.13	3.93
30/3 Enkatron**	SD	0.5Z	Pirns	2.46	2.31
30/6	SD	0.5Z	Pirns	2.36	2.21
30/6	SD	0.5Z	Spools	2.46	
40/8-13	SD	0.5Z	Pirns	2.01	1.91
40/8-13	SD	0.5Z	Spools	2.11	
40/8	SD-B de B*	0.5Z	Pirns	2.10	2.00
40/13	Dull	0.5Z	Pirns	2.06	1.96
40/13	Dull	0.5Z	Spools	2.16	
50/13	SD	0.5Z	Pirns	1.91	1.76
50/13	SD	0.5Z	Spools	2.01	
50/13	SD-B de B*	0.5Z	Pirns	2.00	1.85
50/13	SD-B de B*	0.5Z	Spools	2.10	
70/16-32	B or SD	0.5Z	Pirns	1.71	1.66
70/32	SD-B de B*	0.5Z	Pirns	1.80	1.75
100/32	SD	0.5Z	Pirns	1.65	1.60
100/32	SD-B de B*	0.5Z	Pirns	1.74	1.69
140/24	Bright	1.5Z	Cones	1.60	1.55
140/24	Bright	1.5Z	Beams	1.65	
140/32-64	SD	0.5Z	Pirns	1.60	1.55
140/32-64	SD-B de B*	0.5Z	Pirns	1.69	1.64
200/16-32	Bright	0.5Z	Cones	1.49	1.44
200/16-32	Bright	0.5Z	Beams	1.54	
200/16-32	Bright	1.5Z	Cones	1.49	1.44
200/16-32	Bright	1.5Z	Beams	1.54	
200/32	SD-B de B*	0.5Z	Cones	1.58	1.53
200/16-32	Bright	0.5Z	Cones	1.49	1.39
210/32	BHT	0.5Z	Cones	1.49	1.44
210/32	BHT	0.5Z	Beams	1.54	
260/16	BHT	0.5Z	Cones	1.49	1.39
260/16	BHT	0.5Z	Beams	1.54	
400/64	Bright	0.5Z	Cones	1.39	1.29
420/64	BHT	0.5Z	Cones	1.39	1.29
420/64	BHT	0.5Z	Beams	1.44	
520/32	Bright	0.5Z	Cones	1.39	1.29
520/32	BHT	0.5Z	Cones	1.39	1.29
520/32	BHT	0.5Z	Beams	1.44	
1040/68 Enkatron**	SD	0.5Z	Cones	1.30	1.20
1230/68 Enkatron**	SD	0.5Z	Cones	1.30	1.20
840/140	BHT	0.5Z	Cones	.94	.92
840/140	BHT	0.5Z	Beams	.92	

\* Blanc de Blancs = Enka Trademark White of Whites.

\*\* Enkatron = Enka Trademark Multilobal Yarns.

\*Luster: B—Bright; H—High Tenacity; T—Heat Stabilized; SD—Semi-Dull; D—Dull; \*SD-B de B.

Pirns invoiced at 25¢ or 45¢ each, depending on type. Deposits refunded upon return of pirns in good condition. Cones are not returnable. Spools, Beams and Racks are deposit carriers and remain the property of American Enka Corporation.

Terms: Net 30 days from date of invoice. Minimum common carrier transportation charges will be prepaid and absorbed to first destination in the continental limits of the United States excluding Alaska and Hawaii. In prepaying transportation charges, seller reserves the right to select carrier used.

All prices subject to change without notice.

\*B de B—Blanc de Blancs®—White of Whites Color.

### The Chemstrand Corp.

Current Prices Effective January 1, 1960

Denier	Fila-ment	Twist	Type	Package	Stand- ard Price/lb.	Second Price/lb.
10	1	O	SD	Bobbins	\$7.16	\$6.56
15	1	O	RSD	Bobbins	3.89	3.69
15	1	O	RSD	Spools	4.00	
15	1	O	Dull	Bobbins	3.89	3.69
15	1	O	Dull	Spools	4.00	
20	7	Z	RSD	Bobbins	2.91	2.61
20	7	Z	RSD	Spools	3.02	
30	10	Z	RSD	Bobbins	2.36	2.21
30	26	Z	RSD	Bobbins	2.49	2.21
40	10	Z	RSD	Bobbins	2.01	1.91
40	13	Z	RSD	Bobbins	2.01	1.91
40	13	Z	RSD	Spools	2.11	
40	13	O	RSD	Draw Wind	2.01	1.91
40	13	Z	Dull	Bobbins	2.06	1.96
40	13	Z	Dull	Spools	2.16	
40	13	O	Dull	Draw Wind	2.06	1.96
50	17	Z	RSD	Bobbins	1.91	1.76
50	17	O	RSD	Draw Wind	1.91	1.76
50	17	Z	Brt.	Bobbins	1.91	1.76
70	17	Z	RSD	Bobbins	1.71	1.66
70	20	Z	RSD	Bobbins	1.71	1.66
70	34	Z	RSD & SD	Bobbins	1.71	1.66
70	34	O	RSD & SD	Draw Wind	1.71	1.66
70	34	Z	Brt.	Bobbins	1.71	1.66
70	34	O	Brt.	Draw Wind	1.71	1.66
70	34	Z	HB	Bobbins	1.76	1.66
70	34	O	HB	Bobbins	1.76	1.66
70	34	RB	RB	Bobbins	1.71	
90	28	Z	RSD	Draw Wind	1.76	1.66

100	26	Z	RSD	Bobbins	1.65	1.60
100	34	Z	RSD	Bobbins	1.65	1.60
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	Brt.	Bobbins	1.60	1.55
200	34	Z	Brt.	Bobbins	1.49	1.44
200	34	Z	Brt.	Draw Wind	1.49	1.44
200	68	Z	RSD	Spools	1.54	
210	34	Z	HB	Bobbins	1.56	1.46
210	34	Z	HB	Bobbins	1.49	1.44
210	34	Z	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	
210	34	Z	RHB	Beams	1.54	
260	17	Z	HB	Bobbins	1.49	1.44
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Beams	1.54	
420	68	Z	HB	Bobbins	1.39	1.29
420			RHB	Bobbins	1.39	1.29
520	34	Z	HB	Bobbins	1.39	1.29
720	140	Z	RHB	Beams	.99	
780	51	Z	HB	Tubes	1.39	1.29
840	140	Z	HB	Tubes	.94	.92
840	140	Z	HB	Beams	.92	.90
840	140	Z	HB	Cones	.95	.93
840	140	Z	RHB	Tubes	.94	.92
840	140	Z	RHB	Beams	.92	.90
840	140	Z	RHB	Cones	.95	.93
840	140	Z	HB	Paper Tubes	.94	.92
840	140	Z	RHB	Paper Tubes	.94	.92
840	140	Z	RHB	Textile Grade—W. W.	1.06	.92
840	140	Z	HB & RHB	Raschel Spools	1.00	.92
1050	170		RHB	Tubes	.94	.90
1680	280	Z	RHB	Tubes	.92	
1680	280	Z	RHB	Beams	.92	
1680	280	Z	RHB	Cones	.95	.91
1680				Spools	.99	.91

#### Cumuloft®

520	34	Z	RB	Tubes	2.05	
1040	68	Z	RB	Tubes	1.74	
1230	68	Z	RSD	Paper Tubes	1.53	
2080	136	Z	RB	Tubes	1.66	
3690	204	S	RSD	Cones	1.47	

#### Cadon™

15	1	O	Brt.	Bobbins	4.90	4.70
15	1	O	Brt.	Spools	5.01	
70	34	Z	RSD	Bobbins	1.81	
200	34	Z	RB	Bobbins	1.54	
520	34	Z	RB	Bobbins	1.44	1.34
1040	68	Z	RB & RSD	Tubes	1.30	1.20
1230	68	Z	RSD	Tubes	1.30	1.20
2080	136	Z	RB	Tubes	1.26	

\* These counts also available in Warp Wind package at price shown for Bobbins.

\* Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity. Bobbins are invoiced at 25¢ or 45¢, depending on type; tubes are invoiced at 40¢ each; spools invoiced at \$95.00, \$110.00, and \$115.00, depending on type; and beams and crates for beams are invoiced at \$220.00 and \$25.00 respectively.

Prices subject to changes without notice.

Freight prepaid within Continental United States and Puerto Rico

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

#### Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	First Grade	Second Grade
7-1	0	200	Bobbin	\$8.05	\$7.40
10-1	0	200	Bobbin	7.16	6.56
12-1	0	200	Bobbin	6.35	5.85
15-1	0	90	Bobbin	4.90	
15-1	0	90	Kntg. Beam	5.01	
15-1	0	200	Kntg. Beam	4.00	
15-1	0	200/280	Bobbin	3.85	3.69
15-1	0	680	Kntg. Beam	4.00	
15-1	0	680	Bobbin	3.89	3.69
20-1	0	200/280	Bobbin	4.03	3.68
30-1	0	200	Bobbin	4.13	
40-1	0	100	Bobbin	4.03	3.75
14-2	0.2Z	200	Bobbin	6.72	6.12
17-2	0.2Z	200	Bobbin	5.96	5.41
20-2	0.2Z	200	Bobbin	4.71	4.27
15-3	0.2Z	200	Bobbin	5.19	4.69
21-3	0.2Z	200	Bobbin	4.70	4.27
20-7	0.5Z	200	Bobbin	2.91	2.61
20-7	0.5Z	200	Kntg. Beam	3.02	
20-7	0.5Z	680	Bobbin	2.96	2.61
20-7	0.5Z	680	Kntg. Beam	3.07	
20-17	0.5Z	280	Bobbin	3.51	
20-17	0.5Z	280	Kntg. Beam	3.62	
20-20	0.7Z	209	Bobbin	6.00	
28-4	0.2Z	200	Bobbin	2.81	2.61
30-10	0	200	Drawwinder Tube	2.36	2.21
30-10	0.5Z	200/280	Bobbin	2.36	2.21
30-10	0.5Z	200/280	Kntg. Beam	2.46	
30-10	0.5Z	200	Bobbin	2.51	2.36
30-10	0.5Z	680	Bobbin	2.41	2.21
30-10	0.5Z	680	Kntg. Beam	2.51	
30-26	0.5Z	200/280	Bobbin	2.49	2.21
30-26	0.5Z	200/280	Kntg. Beam	2.59	
40-7	0.5Z	200	Bobbin	2.11	1.91
40-10	0.5Z	200/280	Bobbin	2.01	1.91
40-10	0.5Z	200/280	Kntg. Beam	2.11	
40-13	0.5Z	200/280	Kntg. Beam	2.11	
40-13	0.5Z	100/200/280	Bobbin	2.01	1.91
40-13	0	200	Drawwinder Tube	2.01	1.91
40-13	0.5Z	300/400/480	Bobbin	2.13	1.90
40-13	0.5Z	680	Bobbin	2.06	1.96
40-13	0.5Z	680	Kntg. Beam	2.16	
40-34	0.5Z	200	Bobbin	2.21	1.81
50-10	0.5Z	200/280	Bobbin	2.11	1.76
50-17	0.5Z	100/200/280	Bobbin	1.91	1.76
50-17	0	200	Drawwinder Tube	1.91	1.76
50-17	0.5Z	680	Bobbin	2.01	1.76

50-17	0	685	Paper Tube	2.01	1.76
60-20	0.5Z	200/280/288	Bobbin	1.82	1.65
60-24	0.5Z	300	Bobbin	1.85	1.76
70-17	0.5Z	200/288	Bobbin	1.71	1.66
70-20	0.5Z	288	Bobbin	1.71	1.66
70-34	0.5Z	91	Bobbin	1.80	1.75
70-34	0.5Z	100/180/200	Bobbin	1.71	1.66
70-34	0	105/205	Paper Tube	1.71	1.66
70-34	0	100/200/285	Drawwinder Tube	1.71	1.66
70-34	0.5Z	280/288	Bobbin	1.71	1.66
70-34	0.5Z	300/680	Bobbin	1.76	1.66
70-34	0	680/685	Paper Tube	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.60
90-26	0.5Z	200/288	Bobbin	1.76	1.66
100-34	0.5Z	200/288	Bobbin	1.65	1.60
100-34	0	300	Drawwinder Tube	1.70	1.60
100-34	0.5Z	300/680	Bobbin	1.70	1.60
100-50	0.5Z	200/288	Bobbin	1.71	1.60
110-50	0.5Z	200	Bobbin	1.71	1.60
140-34	0.5Z	680	Bobbin	1.65	1.60
140-68	0.5Z	91	Bobbin	1.69	1.64
140-68	0.5Z	100/180/280	Bobbin	1.60	1.55
140-68	0	200	Drawwinder Tube	1.60	1.55
140-68	0.5Z	200/288	Bobbin	1.60	1.55
140-68	0.5Z	300	Bobbin	1.65	1.55
140-68	0.5Z	680	Bobbin	1.65	1.60
200-20	0.7Z	100/180	Bobbin	1.49	1.44
200-34	0	100	Drawwinder Tube	1.49	1.44
200-34	0.7Z	100/280	Bobbin	1.49	1.44
200-34	0	105	Paper Tube	1.49	1.44
200-34	0.7Z	680	Bobbin	1.54	1.44
200-68	0.7Z	100/200	Bobbin	1.56	1.46
210-34	0	300	Drawwinder Tube	1.49	1.44
210-34	0.7Z	300/330	Bobbin	1.49	1.44
210-34	0.7Z	300/330	Kntg/Section Beam	1.54	
210-34	0	305	Paper Tube	1.49	1.44
260-17	1Z	300/380	Bobbin	1.49	1.39
400-68	0.7Z	100	Bobbin	1.39	1.29
420-68	1Z	300	Bobbin	1.39	1.29
420-68	1Z	300	Kntg/Section Beam	1.44	
520-34	1Z	300/380	Bobbin	1.39	1.29
630-102	0.7Z	300	Bobbin	1.39	1.29
780-51	1Z	300/380	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	1.39	1.29
840-136	1Z	300	Bobbin	1.34	1.24
840-136	1Z	300	Kntg/Section Beam	1.39	

#### Nylon Filament "Antron" Yarn Prices

20-7	0.5Z	560 Brt.	Bobbin	3.06	2.76
20-7	0.5Z	560 S.D.	Bobbin	3.06	2.76
30-10	0.5Z	560 S.D.	Bobbin	2.46	2.31
40-13	0.5Z	560 Dull	Bobbin	2.16	2.06
40-13	0.5Z	560 Mid-Dull	Bobbin	2.11	2.01
40-13	0.5Z	560 S.D.	Bobbin	2.11	2.01
40-13	0.5Z	560 Brt.	Bobbin	2.11	2.01
50-17	0.5Z	560 S.D.	Bobbin	2.01	1.86
70-34	0	565 S.D.	Paper Tube	1.81	1.76
70-34	0.5Z	560 S.D.	Bobbin	1.81	1.76
70-34	0	560 S.D.	Drawwinder Tube	1.81	1.76
200-20	0.7Z	560 Brt.	Bobbin	1.54	1.49
200-34	0.7Z	560 S.D.	Bobbin	1.54	1.49
200-34	0	565 S.D.	Paper Tube	1.54	1.49
250-34	1Z	560 Brt.	Bobbin	1.44	1.34
780-51	1Z	560 Brt.	Bobbin	1.44	1.34

\* Antron is DuPont's registered trademark for its trilobal multi-filament nylon yarn.

#### Color-Sealed Black Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
30-10	0.5Z	140	Bobbin	\$2.71	\$2.56
40-13	0.5Z	140	Bobbin	2.36	2.16
70-17	0.5Z	140/148	Bobbin	2.06	2.01
70-34	0.5Z	140	Bobbin	2.06	2.01
100-34	0.5Z	140	Bobbin	2.00	1.95
200-20	0.7Z	140	Bobbin	1.84	1.79
200-34	0.7Z	140	Bobbin	1.84	1.79
260-20	1Z	140	Bobbin	1.84	1.79

#### INDUSTRIAL YARNS

##### Tire Quality

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
840-140	0.5Z	300/700	Aluminum Tube	\$3.94	\$3.92
840-140	0.5Z	300/700	Beam	.92	
840-140	0.5Z	300/700	Kntg Beam	1.00	
1680-280	0.5Z	700	Cone, Paper Tube	.95	.92
1260-210	0.5Z	700	Beam	.92	
1680-280	0.5Z	700	Aluminum Tube	.94	.92
1680-280	0.5Z	700	Beam	.92	
840-140	0.5Z	300/700	Cone, Paper Tube	.95	.92

##### Industrial Quality

840-140	0.5Z	707	Cone, Paper Tube	.95	
2520-420	0	700	Paper Tube	.97	
3360-560	0	700	Paper Tube	.96	
5040-840	0	707	Paper Tube	.99	
5040-840	0	700	Paper Tube	.96	
7560-1260	0	707	Paper Tube	.98	
7560-1260	0	700	Paper Tube	.95	
10080-1680	0	707	Paper Tube	.98	
15120-2520	0	707	Paper Tube	.98	

These prices are subject to change without notice. Terms: Net 30 Days.

#### Types

- Type 90—Bright, normal tenacity, trilobal—cross section.
- Type 91—Semidull, super white, normal tenacity, for intimate apparel use only.
- Type 100—Bright, normal tenacity.
- Type 105—Bright, normal tenacity, low shrinkage (5-7%).
- Type 140—Bright, color-sealed, black, normal tenacity.
- Type 148—Bright, color-sealed Black, normal tenacity, for texturing.
- Type 206—Semidull, normal tenacity.
- Type 205—Semidull, normal tenacity, low shrinkage (5-7%).
- Type 209—Semidull, normal tenacity, improved light durability and dye light fastness.
- Type 280—Semidull, normal tenacity, improved light durability and dye light fastness.
- Type 285—Semidull, normal tenacity, low shrinkage, improved light durability, and dye light fastness.
- Type 288—Semidull, normal tenacity, for texturing.





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 Type 305—Bright, high tenacity, low shrinkage (5-7%).  
 Type 330—Bright, high tenacity, more heat & light resistant.  
 Type 380—Bright, high tenacity, improved light durability and dye light fastness.  
 Type 400—Semidull, high tenacity.  
 Type 460—Semidull, high tenacity, improved light durability and dye light fastness.  
 Type 560—Luster as designated—Modified cross section. Improved light durability and dye light fastness.  
 Type 565—Luster as designated—Modified cross section, low shrinkage. Improved light durability and dye light fastness.  
 Type 680—Dull, normal tenacity.  
 Type 685—Dull, normal tenacity, low shrinkage (5-7%).  
 Type 700—Bright, high tenacity.  
 Type 707—Bright, high tenacity cordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Following are invoiced as a separate item.  
 Bobbins—25 cents or 45 cents depending on type  
 Aluminum Tube—40¢ each  
 Draw Winder Tubes—\$1.00  
 Industrial & Section Beams—\$220.00 each  
 Racks for Industrial & Section Beams—\$50.00 each  
 Tricot Beams—\$95.00 or \$250.00 each depending upon type  
 Racks for Tricot Beams—\$70.00 or \$130.00 each depending upon type  
 Raschel Beams—\$85.00 or \$100.00 each depending upon type  
 Racks for Raschel Beams—\$70.00 each  
 Knitting (Tricot and Raschel) and Section Beams and Racks are billed at above prices if not returned within 180 days from date of invoice. Industrial beams and racks are billed if not returned within 60 days from date of invoice.  
 (Beams and Racks are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

## POLYESTER

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"™

Denier & Filament	Turns/Inch	Luster	Type*	Package	Tubes 1st Gr.
30-14	0	Bright	55	Tube	\$2.80
30-20	0	Semidull	56	Tube	2.60
40-27	0	Bright	55	Tube	2.35
40-27	0	Bright	55	Tube	2.35
40-27	0	Dull	57	Tube	2.40
70-34	0	Semidull	56	Tube	1.97
70-14	0	Bright	55	Tube	1.97
70-34	0	Bright	55	Tube	1.97
70-34	0	Dull	57	Tube	2.02
100-34	0	Semidull	56	Tube	1.90
140-28	0	Bright	55	Tube	1.85
150-34	0	Semidull	56	Tube	1.85
220-50	0	Bright	51	Tube	1.76
250-50	0	Bright	55	Tube	1.76
1100-250	0	Bright	51	Core	1.50
1100-250	0	Bright	52	Core	1.50
1100-250	Ro2	Bright	52	Core	1.50
1100-250	Ro2	Bright	52	Beam	1.50

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the Continental limits of the U. S., excluding Alaska.

## Yarn Types

\* Type:

Type 51—Bright, high tenacity.  
 Type 52—Bright, high tenacity.  
 Type 55—Bright, normal tenacity.  
 Type 56—Semidull, normal tenacity.  
 Type 57—Dull, normal tenacity

Tubes are invoiced as a separate item at \$.70 each.  
 Industrial beams and cradles are billed if not returned within 60 days from date of invoice. They are then billed as separate items at \$220.00 per beam and \$50.00 per cradle and are returnable for credit.  
 "DACRON" is DuPont's registered trade-mark for its polyester fiber.

## SARAN

### The National Plastics Products Company—Fibers Division Odenton, Maryland

Current Prices:

#### CONTINUOUS FILAMENT

Type	Twist p. l.	Natural	Colors
750/20*	3	1.75	1.80

\* For filter fabrics and other industrial purposes only.  
 F.O.B. Odenton, Maryland.  
 Terms: Net 30 days.

## NON CELLULOSIC STAPLE & TOW ACRYLIC

### American Cyanamid Co. Fibers Division

Effective Date: December 21, 1960

#### Cyanamid Acrylic Staple

	1st Grade Price (per pound)
2.0 Denier Bright and Semi-Dull	\$1.28
3.0 Denier Bright and Semi-Dull	1.22
5.0 Denier Bright and Semi-Dull	1.22
15.0 Denier Bright and Semi-Dull	.89
Staple Lengths: 1½", 2", 2½", 3", 3½", 4", 4½"	
Type WM—Designed for the woolen spinning system and is a blend of deniers (average 4) and length	.94

Type BC—Designed for blending with cellulose and is 2 or 3 denier 1½" semi-dull regular staple 1.08  
 Information provided on request for Deniers, Lengths and Lusters not listed above.

Prices are subject to change without notice.

Terms: Net 30 Days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's route and method) within the continental limits of the United States excluding Alaska. If Buyer requests and Seller agrees to a route or method involving higher than minimum rate, Buyer shall pay the excess transportation cost.

Note: CRESLAN® is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.

### The Chemstrand Corp.

"Acrlan"™

Current Prices Effective January 1, 1961

Denier	Type	Regular Acrlan "A" Qual.	2nd Qual.	Acrlan 16 "A" Qual.	2nd Qual.
1.0	Staple			\$1.28	\$...
2.0	Staple	1.22	1.03	1.22	1.03
2.0	Tow	1.22	1.03	1.22	1.03
2.5	Hi-Bulk Staple	1.22	1.03	1.22	1.03
2.5	Hi-Bulk Tow	1.22	1.03	1.22	1.03
3.0	Staple	1.22	1.03	1.22	1.03
3.0	Tow	1.22	1.03	1.22	1.03
5.0	Staple	1.22	1.03	1.22	1.03
8.0	Staple	1.18	1.03	1.18	1.03
8.0	Tow	1.18	1.03	1.18	1.03
15.0	Staple	.95	...	.95	...
15.0	Tow	.95	...	.95	...

Staple and Tow available in Bright and Semi-Dull lusters.

#### Acrlan Spectran™

Denier	Type	Dark	Light
2.5	Staple	1.39	1.29
3.0	Staple	1.39	1.29
3.0	Tow	1.44	1.34

Acrlan Spectran—Staple and Tow available in Bright lusters only.

Dark—Black, Dark Blue, Brown, Dark Grey and Olive.

Light—Taupe, Gold, Beige and Light Grey.

Fiberfill ..... 1.01  
 Types 77, 88 and 89 Staple ..... .97

TERMS: Net 30 Days.

F.O.B. shipping point, freight prepaid: seller to select and pay transportation charges of carrier to points within the continental limits of the United States, excluding Alaska.

"Acrlan" is Chemstrand's registered trademark for its acrylic fiber.

### The Dow Chemical Company

Textile Fibers Department Current Prices

"Zefran"™ Acrylic Staple

Type	Staple Length	
Type 1207		
2.0 Denier	1½", 2", 3"	\$1.24
3.0 Denier	1½", 2", 2½", 3", 4½"	1.18

100% Blends of ZEFRA 1207 Acrylic fiber (For the Woolen System)

Type W-7 (average denier of about 2.5) ..... \$.99

Type W-9 (average denier of about 4.5) ..... .94

Terms: Net 30 days.

Transportation Terms: F.O.B. shipping point—Freight prepaid our route within the continental limits of the U. S., excluding Alaska.

\* Registered trademark of The Dow Chemical Co.

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Orlon"™ Acrylic Staple & Tow

Type	Staple Length	Tow Blds.	1st Grade
2.0 Denier Semidull & Bright	1½, 1½, 2, 2½, 3, 4½	470M	1.28
3.0 Denier Semidull & Bright	1½, 1½, 2, 2½, 3, 4½	470M	1.30
3.0 Denier Color-sealed Black	1½, 1½, 2, 2½, 3, 4½	470M	1.63
6.0 Denier Semidull & Bright	1½, 2, 2½, 3, 4½	470M	1.20
6.0 Denier Color-sealed Black	1½, 2, 2½, 3, 4½	470M	1.55
4.5 Denier Semidull	1½, 1½, 2, 2½, 3, 4½	470M	1.18
10.0 Denier Semidull & Bright	1½, 2, 2½, 3, 4½	470M	1.18
10.0 Denier Color-sealed Black	1½, 2, 2½, 3, 4½	470M	1.55

High Shrinkage Staple price as Regular Staple

Type 38 Semidull & Bright ..... \$1.09

This product is designed for the pile-fabric trade and is a mixture of deniers (average about 3.0), 1½" staple.

Type 39 Semidull ..... \$.94

This product is designed for woolen system spinning and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A Semidull ..... \$.99

This product is designed for woolen system spinning and is a blend of predominately fine deniers (average 2.5) with a variable cut length.

Type 39B Semidull ..... \$.94

This product is designed for woolen system spinning and is a blend of predominately heavy deniers (average 6.5) with a variable cut length.

Type 72 Semidull ..... \$1.08

This product is designed as a blending staple with cotton for skin-contact apparel type of fabrics and is a 1.5 denier, 1½" semidull whitened staple.

Type 75 Semidull ..... \$1.08

This product is designed for Cotton/Rayon System Spinning and is 2.5 denier, 1½" semidull regular shrinkage staple.

"ORLON SAYELLE"™

Type 21

3.0 denier semidull variable (2½" to 5" average 3¾") staple ..... \$1.45

6.0 denier semidull variable (2½" to 5" average 3¾") staple ..... 1.40

6.0 denier semidull tow 470M ..... 1.40

F.O.B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

"ORLON" is Dupont's Registered Trade-mark for its Acrylic Fiber.

"ORLON SAYELLE"™ is Dupont's Registered Trade-mark for its bi-component Acrylic fiber.

## MODACRYLIC

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

### "Verel"® Staple and Tow

Denier	Type A	Type B	Type C	Type D	Type III	Type HB
2.75*	.75	.....	.....	.....	\$0.75	\$0.75
5	.75	.....	.....	.....	.....	.75
8	.....	\$0.75	.....	.....	.....	.75
12	.....	.70	\$0.70	\$0.70	.....	.70
16	.....	.70	.70	.70	.....	.70
24	.....	.....	.75	.....	.....	.....

\* cut 1 1/4" length only

Type A—High crimp with good crimp retention

Type B—High crimp—less permanent than Type A

Type C—Medium crimp—nonpermanent—crimp easily removed

Type D—Low crimp—completely nonpermanent—fiber must be stabilized in dyeing

Type HB—Very high, very permanent crimp

Type F—Fiber with greater denier and length variation than other types

Type III—Controlled shrinkage fiber

Prices are subject to change without notice.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

\* "Verel" is a trade-mark of the Eastman Kodak Co.

## Union Carbide Chemicals Co.

Div. Union Carbide Corp.

Textile Fibers Dept.

Effective December 1, 1959

### Natural Dnyel Dynel Staple & Tow

2, 3, 6, 12 Denier, Staple and Tow	1.10 per lb.
Liner blend, Staple only	.92 per lb.
24 Denier, Staple and Tow	1.05 per lb.
3 Denier Type 80, Staple and Tow	.85 per lb.
3 Denier Type 63, High Shrinkage, Staple and Tow	1.15 per lb.

Dnyel Spun with Colors:

Blond, Pewter, Gray, Brown, Charcoal, Black

3 and 6 Denier, Staple and Tow 1.20 per lb. |

3 Denier Type 63, High Shrinkage, Staple and Tow 1.30 per lb. |

Prices are quoted F.O.B. shipping point, freight prepaid our route, within continental limits United States, excluding Alaska and Hawaii.

### Aeress Yarn

Denier & Filament	Turns/Inch & Twist	Package	Price
75-30	1.0 Z	Paper Tube	\$2.10
100-40	1.0 Z	Paper Tube	2.05
150-60	1.0 Z	Paper Tube	2.00
200-80	1.0 Z	Paper Tube	1.95

Prices are quoted F.O.B. shipping point, freight prepaid our route, within continental limits of United States, excluding Alaska and Hawaii.

## NYLON

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

### Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	1st. Grade Price/Lb.	2nd Grade Staple Only
1.5	200	1 1/2"—4 1/2"	None made	\$1.24	\$1.10
1.5	201	1 1/2"—4 1/2"	None made	1.26	1.12
2.3	420	1 1/2" only	None made	1.24	1.10
3.0	231	1 1/2"—4 1/2"	385M	1.26	1.12
3.0	100/200	1 1/2"—4 1/2"	430M	1.24	1.10
3.0	101/201	1 1/2"—4 1/2"	455M	1.26	1.12
4.6	320	1"—6 1/2"	None made	1.24	1.10
6.0	100	1 1/2"—6 1/2"	330M	1.20	1.06
6.0	101	1 1/2"—6 1/2"	345M	1.22	1.08
15.0	100	1 1/2"—6 1/2"	425M	.95	.....
15.0	101	1 1/2"—6 1/2"	None made	.97	.....
15.0	600	1 1/2"—6 1/2"	425M	.97	.....
15.0	601	1 1/2"—6 1/2"	None made	.99	.....

### Types

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows: 1 1/2", 1 3/4", 2", 2 1/4", 3", 4 1/4" and 6 1/2"

Type 100 Bright, normal tenacity, not heatset.

Type 101 Bright, normal tenacity, heatset.

Type 200 Semidull, normal tenacity, not heatset.

Type 201 Semidull, normal tenacity, heatset.

Type 231 Semidull, normal tenacity, high crimp heatset.

Type 320 Bright, high tenacity, high modulus, no crimp.

Type 420 Semidull, high tenacity, high modulus, no crimp.

Type 600 Dull, normal tenacity, not heatset.

Type 601 Dull, normal tenacity, heatset.

These prices are subject to changes without notice.

Terms—Net 30 Days.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

## OLEFIN

Beaunit Mills Inc.

Fibers Division

Effective November 1, 1960

### Polypropylene Bright Staple

Denier	Price per Lb.
1.5	\$0.90
3.0	.90

AUGUST, 1961

6.0 .90  
15.0 .90  
Staple cuts are 1 1/2", 2" and 3".  
Other lengths are available on request.

Terms: Net 30 days F.O.B. shipping point. Minimum Freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices subject to change without further notice.

## Dawbarn Brothers, Incorporated

Effective June 8, 1961

### Polypropylene for Outdoor Furniture Tape

Designation	Price Per Pound	Average Yield	Less Than One Pallet	One Pallet And Over
DLP®57, 100FX8/0	4,500 per end	4,500	\$1.15	\$0.80
DLP®51, 1000F1/0	4,500	4,500	1.20	.85
DLP®51, 375/1/0	11,900	11,900	1.25	.90

### Carton Weight

Cable Weight		Cable Weight
54#	1000FX8/0	650#
22#	1000F/1/0	475#
25#	375/1/0	500#

Deduction for Seasonal Shipments—Schedule:

June 1-August 31	(1st Quarter)	\$0.04 Per Pound
September 1-November 30	(2nd Quarter)	.02 Per Pound
December 1-February 28	(3rd Quarter)	.00 Per Pound
March 1-May 31	(4th Quarter)	.00 Per Pound

Terms: Net 30 days, F.O.B., Waynesboro, Virginia.

Truckload Shipments (minimum 40 pallets) freight prepaid.

Less truckload shipments—freight collect.

Red yarn ..... Add \$.03 per pound.

Order Acceptances:

All orders are subject to acceptance at the Home Office in Waynesboro, Virginia.

Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.

### Standard Colors

100, White	431, Medium Green
331, Red	462, Dark Green
432, Turquoise	531, Yellow

All prices subject to change without notice.

## Dawbarn Brothers, Incorporated

Effective July 1, 1961

### Polyethylene and Polypropylene Rope Filament

(FOR CANADA SEE CANADIAN PRICE LIST)

Designation	Size	Less Than One Pallet	1-119 Pallets	120-199 Pallets	200 Pallets And Over
DLP®61	3000/16	\$1.16	\$0.81	\$0.80	\$0.79
DLP®61	182X66/20S	1.17	.82	.81	.80
DLP®60	3000/16	1.08	.73	.72	.71
DLP®60	182X66/20S	1.09	.74	.73	.72
DLP®21	3000/5/0	1.09	.74	.73	.72

DLP®61—Heat and UV Stabilized—Polypropylene

DLP®21—Heat and UV Stabilized—Polyethylene

DLP®60—Heat Stabilized Only—Natural (To be used as core yarn only)

### Carton Weight

42	3000/16	Average Pallet Weight
40	3000/5	500
285	182X66/20S	500
		570

Terms:

Net 30 days, F.O.B., Waynesboro, Virginia

Freight prepaid only on truckload shipments to shipping points East of the Mississippi River.

All less truckloads shipments freight collect.

Orange and Red material ..... Add \$.03 Per Pound.

Order Acceptances:

All orders are subject to acceptance at the Home Office in Waynesboro, Va.

Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.

Orders must be completed within 90 days from first shipment.

Minimum of three weeks required for items not in inventory.

### Standard Colors

Polypropylene	Polyethylene
DLP®61-104, White	DLP®61-412, Green
DLP®61-237, Blue	DLP®61-506, Yellow
DLP®61-318, Red	DLP®61-701, Black
DLP®61-319, Orange	DLP®60-503, Natural

Standard Colors and Sizes are cumulative on both Polypropylene and Polyethylene in full pallets only.

Above prices are subject to change without notice.

## Dawbarn Brothers, Incorporated

Effective June 1, 1961

### Polypropylene Monofilament Price List

(Standard Colors\*)

Designation	Price Per Pound	Avg. Yield	Less Than One Pallet	One Pallet And Over
DLP®51, 375/1/0	11,900	11,900	\$1.25	\$0.90
DLP®57, 270FX24/0	16,500 per end	16,500	1.28	.93

There are 17 Standard Colors listed on separate sheet.

\*Red, Maroon ..... Add \$.03 per pound.

Terms:

Net 30 days, F.O.B., Waynesboro, Virginia.

Freight collect on all less truckload shipments.

Freight prepaid on truckload shipments (40 pallets minimum).

Order Acceptances:

All orders are subject to acceptance at the Home Office in Waynesboro, Virginia.

Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.

All prices subject to change without notice.

## POLYESTER

### Beaunit Mills Inc.

Current Prices Vycron Semi-Dul Polyester

	Denier	Price Per Lb.
Staple	1.5	\$1.00
Staple	3.0	1.00
Staple Cuts are 1½" to 6".		
Tow for Converters	1.5	1.00
(Tow Bundle 200,000 Denier)	3.0	1.00

Spun Dyed Black 15¢ per lb. extra.

\*Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be a buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Dacron"*** Staple and Tow				
Denier	Luster	Type*	Length	Tow Bundle 1st Gr.
1.5	Semidull	35	1¼"-1½"	None made \$1.14
1.5	Semidull	54	1¼"-1½"	None made 1.14
1.5	Semidull	64	1¼"-3"	None made 1.24
2.25	Semidull	64	1¼"-4½"	450M 1.24
3.0	Semidull	64	1¼"-4½"	450M 1.24
3.0	Semidull	61	1¼"-4½"	None made 1.24
3.0	Semidull	64	1¼"-4½"	450M 1.24
4.0	Semidull	64	1¼"-4½"	450M 1.24
4.5	Semidull	54	1¼"-4½"	450M 1.24
6.0	Semidull	54	1¼"-4½"	450M 1.24
6.0	Semidull	61	1¼"-4½"	None made 1.24
6.0	Semidull	64	1¼"-4½"	450M 1.24

\*Type:

Type 35—More Pill Resistant Staple for Cellulosic Bends.

Type 54—Semidull, Normal Tenacity.

Type 61—Industrial Staple having 45% Shrinkage. Not intended for Dyeable Uses.

Type 64—More Pill Resistant Staple, with Greater Dyeing Versatility.

### "Dacron" Polyester Color-Sealed Black Staple and Tow

2.25 Color Sealed Black	64	1¼"-4½"	450M	1.44
3.0 Color Sealed Black	64	1¼"-4½"	450M	1.44

F. O. B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

\*\* Dupont's Registered Trade-mark for its Polyester Fiber.

### Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

### "Kodel"

Denier	Types Semi-Dull			
	HM	I	S (Black Only)	
1.5 staple only	\$1.14	\$1.14	\$1.14	
2.25 staple and tow	....	....	1.24	\$1.44
3.0	....	....	1.24	1.44
4.5	....	....	1.24	1.44
6.0	....	....	1.24	....
8.0	....	....	1.24	....

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

\* "Kodel" is a trade-mark of the Eastman Kodak Company.

### Celanese Fibers Company

Current Prices Effective April 14, 1961

### \*Fortrel Polyester Staple and Tow

Staple		
Denier	Luster	Price
1.5	Semi-dull	\$1.14
3	Semi-dull	1.24
4.5	Semi-dull	1.24
6	Semi-dull	1.24

Staple lengths 1½", 2" and 3".

All staple packaged in 500 pound bales.

Tow		
Denier	Luster	Price
3	Semi-dull	\$1.24
4.5	Semi-dull	1.24
6	Semi-dull	1.24

Total denier of all tow is 225,000.

All tow packaged in 300 to 400 pound cartons.

TERMS: Net 30 days. F.O.B. destination—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

Prices subject to change without notice.

\* Registered Trademark of Celanese Corp. of America.

## VINYON

### American Viscose Corp.

Effective October 1, 1956

### Avisco Vinyon Staple

1.5 denier 1½" Unopened	\$ .90 per lb.
3.0 denier 1½" Unopened	.80 per lb.
3.0 denier 1½" Unopened	.80 per lb.
3.0 denier 1½" Opened	.90 per lb.
3.0 denier 2" Opened	.90 per lb.
5.5 denier 1" Opened	.90 per lb.
5.5 denier 1½" Unopened	.80 per lb.

Terms: Net 30 days.

## SARAN

### The National Plastics Products Company—Fibers Division Odenton, Maryland

Current Prices:

### Saran Staple

Type	Denier	Natural	Colors
2Y—Upholstery	22	\$0.70	\$0.75
2Y—Upholstery	16	.74	.79
3C—Industrial Fabrics	22	.68	.72
1C—Carpets	22	.68	.72
1M—Mops	22	.68	.72

In any staple length 1¼ to 6". Also 45 denier, 7" cut.

F.O.B. Odenton, Maryland.

Terms: net 30 days.

## GLASS YARN

### Owens Corning Fiberglas Corp.

### A Decorative Continuous Yarn

DE 150 1/0 1.0 TPI 53¢ per lb.

F.O.B. Freight Allowed.

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## WANTED

### For Polyester Fiber Plant

Experienced Engineers and Chemists.  
Annual salary: Juniors \$12,000 to \$15,000 and Seniors: \$15,000 to \$20,000.  
Must be willing to relocate.

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TECHNICAL GUIDANCE by MARTIN H. GURLEY, Jr.  
in Development and Use of  
Fibers and Fibrous Materials

R.F.D.-4 Martin H. Gurley, Jr.  
Lexington, Va. Congress 1-3294

## WANTED

### For Man-Made Fiber Industry SENIOR ENGINEER

To supervise activities of drafting office, experienced in machine design in cellulosic and/or synthetic fiber field. Salary \$15,000 and up depending on experience.

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## FLORIDA AND ALABAMA OPENINGS TEXTILE, MECHANICAL, AND CHEMICAL ENGINEERS PROCESS IMPROVEMENT

The Chemstrand Corporation—producer of Acrilan® acrylic fiber and Chemstrand nylon—needs B.S. graduate engineers with up to five years process assistance or improvement experience in the chemical, textile or chemical processing industries for openings in Decatur, Alabama and Pensacola, Florida manufacturing operations.

Assignments involve process and product improvement and modification and technical assistance in day-to-day process problems.

Excellent working conditions and supervisory advancement opportunities in well-equipped plants. Attractive southeastern communities on TVA lake in Alabama and on Florida's Gulf Coast offer pleasant, mild climate, enjoyable living, good schools, and plentiful recreational opportunities.

Send resume of education, experience and salary history and requirements in confidence to: Manager, Employment-Recruitment, Box ENG-1, The Chemstrand Corporation, Decatur, Alabama.

**The CHEMSTRAND Corporation**  
DECATUR, ALABAMA

## RESEARCH AND DEVELOPMENT ENGINEERS

Fiber Industries, Inc. is now staffing their new research and Development Group. Fiber Industries, jointly owned by the Celanese Corporation of America and Imperial Chemical Industries Ltd., needs engineers to fill senior positions in Research and Development. Academic backgrounds of chemical and mechanical engineering, chemistry and physics are required with advanced degrees an advantage.

Experience in synthetic fibers or plastics is desirable. Emphasis will be placed on intelligence and ability. Only men of exceptional ability can be considered as these men will be leading groups of graduates in developing new products and processes in the manufacture of polyester fiber.

Please send resume in confidence stating age, education, experience, and salary requirements to:

Godfrey G. Bennett, Jr.  
Employment Supervisor  
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Shelby, North Carolina

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303 Fifth Ave., N. Y. 16, N. Y.

## Calendar of Coming Events

Aug. 29—Textile Salesmen Association fall member-guest golf tournament. Ridgewood Country Club, Ridgewood, N. J.  
 Sep. 6—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Sep. 7-8—Combed Yarn Spinners Association annual meeting. The Greenbrier, White Sulphur Springs, W. Va.  
 Sep. 11-15—Instrument Society of America, Instrument-Automation conference and exhibit. Sports Arena, Los Angeles, Calif.  
 Sep. 12-14—Southeastern Maintenance & Engineering Show and Seminar. Greensboro, N. C.  
 Sep. 14-15—Am. Gas Assoc. textile processing symposium. Clemson House, Clemson, S. C.  
 Sep. 21-22—Carded Yarn Association, annual convention. The Cloister, Sea Island, Ga.  
 Sep. 21-22—Southern Textile Methods & Standards Association. Clemson House, Clemson, S. C.  
 Sep. 21-22—Chattanooga Yarn Association outing. Read House, Chattanooga, Tenn.  
 Sept. 27-29—AATCC National Convention, Hotel Statler, Buffalo, N. Y.  
 Sep. 27-30—"Index '61" 3rd Virginia biennial state-wide industrial exposition. Roanoke, Va.  
 Oct. 4—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Oct. 7—Alabama Textile Operating Executives, fall meeting. Thach Auditorium, Auburn, Ala.

Oct. 11-13—Quartermaster Association national convention. Biltmore Hotel, Atlanta, Ga.  
 Oct. 11-13—Fiber Society meeting. West Point, N. Y.  
 Oct. 11-21—International Knitting Machinery Exhibition. Belle Vue Hall, Manchester, England.  
 Oct. 14—South Carolina Div. STA. Clemson, S. C.  
 Oct. 14—Textile Operating Executives of Georgia. Georgia Tech, Atlanta, Ga.  
 Oct. 26—Textile Salesmen Association annual fall luncheon. Statler Hilton Hotel, New York, N. Y.  
 Nov. 1—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Nov. 1-2—ASME Textile Engineering Div. annual meeting. Massachusetts Inst. of Technology, Cambridge, Mass.  
 Nov. 8-9—Chemical Finishing Conference. Sheraton Park Hotel, Washington, D. C.  
 Nov. 13-15—Narrow Fabrics Institute, Inc. meeting. Statler-Hilton, New York, N. Y.  
 Dec. 6—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

1962

Jan. 3—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

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Many Rayon manufacturers have availed themselves of the protection afforded by HERESITE. The unique properties of this coating include chemical resistance and mechanical strength. The general value of HERESITE to the rayon industry is demonstrated by its ability to prolong the life of

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storage tanks . . . Piping . . . Filter presses . . . Storage tanks for  
wash solutions . . . Centrifuges . . . Vacuum wash tanks . . .  
Bleaching tanks . . . Adaptors . . . Ductwork . . .**

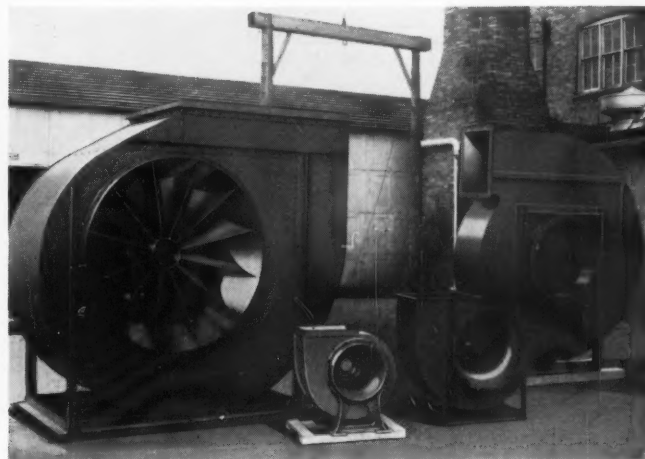
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**Production Free from Contamination**



Solutions stored in HERESITE lined tanks are maintained free from contamination and cannot discolor the spinning bath solution.




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# ALSiMAG<sup>®</sup> 614 Alumina Ceramic THREAD GUIDES

ALSiMag thread guides of this alumina ceramic are giving good performance in tough spots where no other material had been satisfactory.

This homogeneous material is unusually hard and strong. It has a water absorption of zero, specific gravity of 3.7 and density of 0.135. It has a hardness of 9 on Mohs' scale, compressive strength of 400,000 psi, tensile strength 25,000 psi, flexural

strength 60,000 psi and a 1/2" rod has a resistance to impact of 7 inch-pounds. It withstands heat up to the 3000° F. area.

All this adds up to the fact that this ALSiMag Alumina Ceramic is harder and more wear resistant than any known metal.

Guides in this material can be supplied in satin or bright finish. Rods and tubes can be supplied in controlled finishes in a normal range of

5 to 70 micro-inches r.m.s. Other special finishes can be supplied when required.

ALSiMag 614 guides are exceptionally uniform from guide to guide and from lot to lot.

If you have a difficult guide application you may find this the answer.

Prototypes can be made promptly and at reasonable cost so you can make tests in your own plant. Send blue print, sketch or sample guide.

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